

COMMODORE

APRIL 1987



Zinggg! go
images of the
computer

64 – Image System
and Voicemaster

128 – Blitz and
Swiftcalc

Plus/4 Light
Pen and
Micronet.

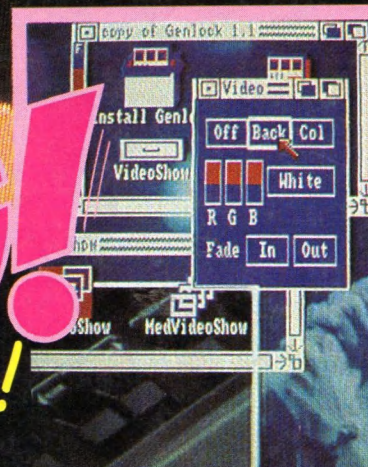
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How serious?

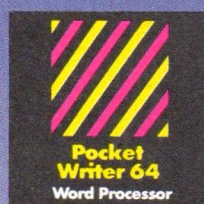
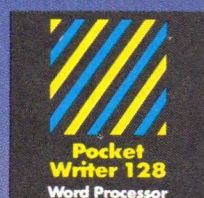
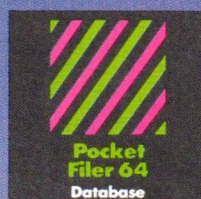
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Accurate, sophisticated and easy to use. Pocket Planner 128 or 64 offers standard spreadsheet features plus...

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You want the very best software you can find for your Commodore 128 or 64, right?

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Pocket Writer 128 and 64 are available in French — full AZERTY keyboard support.

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COMPUTING
INTERNATIONAL**

APRIL 1987

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goes the Amiga!

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CCI View

Advertisers' Directory

Dear Reader,

Included in this issue of CCI, is another Commodore Business and AMIGA User Magazine. This magazine is now distributed around the world but we thought that it would be of interest to you — and add value to your CCI. In it, there is news of two new AMIGAs. Jeff Minter in an interesting and as usual provocative column comments that the new lower price AMIGA will quickly take the place of the 64. A somewhat controversial idea, contradicted incidentally in our 'Market Leader' article by Konami's Luther de Gale.

We are also the first magazine to look at an interesting new graphics package, The Image System, and a long awaited ANCO sound peripheral. Games like Gremlin's Way of the Tiger, Tynesoft's Jet Set Willy II and Activision's Shanghai get Mega awards. Shanghai receives coverage too in 'AMIGA User' in a sharp look at the problems with current games on that machine. Micronet are making an interesting communications offer through CCI to Plus/4 owners and Peter Gerrard, onetime editorial star of CCI, returns to its pages with some expert words on 64 interrupts. There is even extra space for news and programs which seem very popular. With so much variety in the magazine, we hope CCI will provide some spice of life for everyone in the Commodore world.

Yours sincerely

Antony Jacobson

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Send this voucher together with vouchers I and II and you receive a *free* cassette of software. See our next issue for the contents of the software cassette.



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128 Blitz!

The legendary BLITZ Basic Compiler is now available for the Commodore 128 — from Supersoft.

Compatible with Commodore Basic on the 128 (including graphics commands), BLITZ also supports Basic extensions BLITZ can make ordinary Basic programs run 5, 10 or even 20 times faster!

Of course, anyone who's used a compiler will know that it isn't just the speed of the compiled code that's important — the time it takes to compile a program matters too. But then anyone who has used BLITZ on the 64 will know that it's possibly the fastest and easiest compiler of the lot.

BLITZ 128 costs £29.95 (inc VAT), and comes with a comprehensive manual.

Additional compiling options are available when a dual drive or two single drives are used.

Supersoft are also releasing a new version of BLITZ for the Commodore 64. BLITZ 64 is available on disk at £19.95, or (for the first time) on tape at £14.95.

Knit One

Russell Mason's enterprising Trueknit company are producing some very striking computer sweaters. These are emblazoned with the Commodore and Amiga logo and are available in black, brown, navy, red and rust. Logos are either white, gold or green. Matching scarves are also available (approx 55 inches long) for the real trendsetter. They are made of 100% acrylic and come in all sizes. Jumpers are priced at £16.00 and scarves at £5.00. Outside UK add £2 p&p. Further details available from Trueknit.

Contact: Trueknit, 32 Hazell Way, Stoke Poges, Bucks. SL2 4DD.



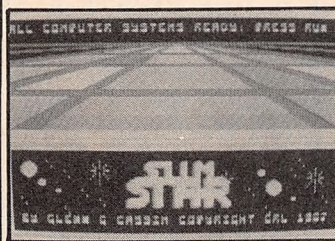
Star from CRL

CRL has announced the release of Sun Star for the Commodore 64/128.

Sun Star is a fast and furious game in which you are the pilot of the space craft Sun Star. You are destined for the Xxarion Star Corporation's solar energy grid to collect energy. However, due to a build-up of unstable energy pulses, that task is far from easy.

You must hurtle around the maze-like grid at breakneck speed destroying disrupter pulses to collect the fast moving energy crystals that are left behind. Avoid the grid walls and disrupter pulses or you will be destroyed!

The price of Sun Star is as yet undecided.



ORC That will do nicely

64K? What about 64 Megabytes or even 200 megabytes — on a card the size of an American Express or Access card?

Optical Recording Corporation (ORC) are developing a card that will carry between 50 and 200 megabytes of user application on one side of a credit card device and a card drive that will transfer data at a rate of over one megabit per second in both read and write functions. The cards will share both text and digitized images.

The optical Memory Card represents capacity and performance 100 times greater than that of the LaserCard as trademarked by Drexler Technology Corporation and over 1,000 times that of the microchip-embedded Smart Cards. Commercial prototypes are slated for public demonstration in the second quarter of 1987.

Martech's Nemesis

Martech has acquired the computer rights for the popular 2000 AD character, Nemesis the Warlock. Their first game with Nemesis takes an unusual viewpoint. Save the aliens from the baddie humans!

Nemesis the Warlock leads the Resistance Movement against Torquemada, Grand Master of the Terminators and has sworn to destroy the evil empire of the Termight. Torquemada has cleansed Termight of all aliens and is recognised as the protector of all human life on the planet. He treats the extinction of alien life as a religious crusade and sets about to cleanse the

galaxy — only Nemesis can save the aliens.

In the game, Nemesis seeks out Torquemada in attempt to finally destroy him. Each new screen will provide him with different obstacles to overcome. The Terminators will try to destroy him before he can reach their Grand Master. But Nemesis is well-equipped; his trusty sword, Excessus, has killed many Terminators. If that fails he has his gun and the ability to breathe fire at his opponents. A word of warning — don't linger too long on the screen once you have killed the Terminators as they will return to life.

As Nemesis gets nearer to Torquemada his face will gradually appear at the bottom of the screen. Once fully visible — the final battle is about to begin.

Mindscape's U.S./U.K. Games

Mindscape are releasing in the U.S. for the Commodore 64 five new games. Hewson's *Uridium*, Gremlin's *Trailblazer*, Ocean's *Parallax*, Martech's *Uchi Mata* and *Fist: The Legend Continues* from Melbourne House.

In *Uridium*, you must fight off a squadron of enemy Super-Dreadnought ships.

Trailblazer offers you a series of soccer ball races that take you through hyperspace networks of changing colour grids.

Parallax put you and four other astronauts on an alien planet.

Based on Judo, *Uchi Mata* is an accurate and detailed martial arts simulation.

In another martial arts simulation, *Fist: The Legend Continues* puts you in the role of Kung Fu master.

These five games have already been chart smashes in Europe and will sell at \$29.95 each.

E.A.'s U.S./U.K. Game Electronic Arts has announced the release of the computerised edition of the classic boardgame, *Scrabble*. *Computer Scrabble* is a product of Leisure Genius, a London-based entertainment software

company owned by Virgin Games.

Computer Scrabble includes a playing vocabulary of 12,000 to 20,000 words, depending on the hardware compatibility, and a built-in wordspeller that doublechecks every move. There are four difficulty levels making *Computer Scrabble* playable by all age groups.

Plus/4 Mag Plus

We have received the first issue of the Plus/4 Magazine we mentioned recently. Andrew Horton — their editor — tells us that quite a few people wrote to him and they are *all* happy with his magazine. CCI wish we could say the same! What Andrew's publication lacks in polish and professionalism, it probably makes up in energy and enthusiasm. Keep at it, Andrew!

Contact: Andrew Horton, Plus/4 Magazine, 12 Fowlers Farm Road, Stokenchurch, Bucks. HP14 3PU.

And there is a Plus/4 Users Group in the United States which even has utility software created by the great Jim Butterfield.

PLUG (The Plus/4 Users Group), Box 1001, Monterey, California 93942.

Martech Pulsates

Martech are releasing Pulsator, a multi-maze shoot 'em up with a challenging puzzle. It offers 5 game levels, each consisting of 49 rooms. On each level is a "Pulsy" who has to be rescued.

The aliens on each level become progressively more intelligent and will deplete your power if they touch you. (Don't touch me, you nasty alien!) The landscape of each level also becomes increasingly more difficult and hazardous to negotiate.

The game is far more complex than simply finding your way through a maze. Various pathways are blocked by gates. The gates can be opened or closed by passing over sensors. If a particular type of gate is closed and you pass over its associated sensor then it will open. If a gate is open and you pass over its sensor then it will close. It is this element of the game which makes it far more exciting than simply solving a maze.

Pulsator is a fast moving and addictive game, requiring quick reactions and quick thinking. It costs £8.95 for the 64/128 cassette, £12.95 disk.

U.S. Gold Appointment

U.S. Gold are pleased to announce the recent appointment of Jerry Howells as Product Manager for a range of SSI and Broderbund products to be launched this year. Howells has over five years experience in the computer industry, mainly in a retail capacity. It was because of his familiarity of the American market and these brands in particular, that U.S. Gold recognises him as an ideal choice to head up the sales and marketing of such high quality American software. Virtually the whole SSI range of products will not be marketed by U.S. Gold, a range that was previously only available on import at a prohibitive cost. The Broderbund range includes all new products along

Graham Gooch's Test Cricket Now For The Commodore 128

Graham Gooch's Test Cricket for the Commodore 128 is the most sophisticated yet of the Graham Gooch range, and has to be the most comprehensive (and ideologically

The GAC Paper Management System

Incentive have just released a Paper Management System, in the form of Designer Pad. Each pad has over 200 double-sided pages of A4 and will aid the development of GAC produced adventures.

The Pad was designed by Tony Stansfield, Robert Ford and Wayne Phillips, and complements the GAC on all formats.

The GAC Designer Pad retails at £7.95 plus £1.25 towards postage (it actually costs more!), and is available from: **Incentive Software Limited, 2 Minerva House, Calleva Park, Aldermaston, Berks. RG7 4QW. Tel: (03356) 77288.**

with the back catalogue which be featured on the Americana range and also in a series of compilations. Such American best sellers as Print Shop and the Broderbund range of interactive adventures including "Where in the World is Carmen San Diego" will be made available.

Jerry Howells told CCI that there was a "niche in the U.K. market that had little time devoted to it because of the lack of investment and the distribution channels not in place to promote specialist quality software."

CCI will be taking a close look at SSI titles in future issues.

sound) cricket games ever. It is also one of the first games to be made available specifically for the 128.

Audiogenic Software have utilised the full 128K memory capability by providing all the facilities of the original 64 version — including the life-like animated graphics, the choice of arcade or simulation mode, the ability to enter your own teams, and the full scoreboard displays — plus the following additions: speech; nine built-in test squads with non-racist graphics; two player arcade mode; more control over the bowler; practice mode; action replays; and extra scrolling messages.

Test squads included are England, Australia, West Indies, New Zealand, India, Pakistan and Sri Lanka (South Africa is, of course, boycotted), plus a World eleven picked from the cream of current worldwide cricketing talent, and an All-Time eleven made up of past and present cricketing greats like W.G. Grace and Don Bradman. The attention to detail is such that, instead of having everyone a uniform shade of pink, black and coloured players are depicted on screen as such.

Two players can now play simultaneously in arcade mode, with joystick control over the batsman and bowler. Gameplay has been shar-

pened by giving additional control of the timing of the bowler's delivery. Practice mode has been included to allow players to get the feel of batting and bowling before starting a full Test match or one of the limited over options.

Extra touches like high quality digitised speech, action replays of wickets, and extra scrolling messages giving the state of play, all go to make Graham Gooch's Test Cricket for the 128 the ultimate simulation of our noble game. The program is available now on cassette for £9.95 and on disk for £11.95.

Amanda Takes The Cake

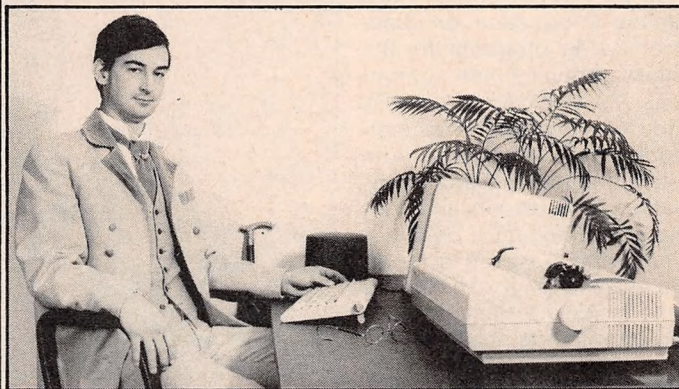
Coming soon on Ariolasoft's REAKTOR label is 'KILLER RING' for C64/128. This fast and furious shoot 'em up will, Amanda 'chief cake tester' Barry assures us, take your breath away!

Written by ace programmer Tony Crowther, 'KILLER RING' is a lesson in destruction. The golden rule to remember here is — if it moves, shoot it! (But if you're into text-filled inlay cards — there's a recipe for K-Ring cup cakes to keep you happy). C64/128 Cass and Disk £8.99/£12.99.

150 Years Old

"Sir Isaac Pitman", alias great-great-grandson James Pitman, feels right at home with computers 150 years after the invention of Pitman shorthand. James is Product

Manager of Computer Publications for London-based Pitman Publishing, now the largest international business education publisher in the world and part of the Pearson PLC group. Pitman Publishing plans a year of educational events to celebrate 150 years of business innovation.



Status Go U.K.

The first low-price games for the PC are beginning to appear. Status Software (the name given to the latest full-price label of leisure software from Creative Sparks Publishing) will be brining out its first titles — **ICON: Quest for the Ring** and **FORTUNE TELLER** for IBM PC and compatibles.

ICON: Quest for the Ring is an exciting arcade adventure about a Norse chief who, in his ambition to live as noble a life as possible, tries to retrieve a golden ring from the creatures of the underworld and return it to the lovely Rhine-maidens — the rightful owners. In order to do this he must escape from the maze of dungeons filled with trecherous and classical monsters trying to kill him at every turn. On his side he has the ICONs,

virtues hidden deep in the caverns of the underworld. However, these powerful weapons must be used with extreme caution — misuse at any time could result in an agonising death!

Finally, the virtue of the Norseman himself is put to the test — having found the priceless golden ring, does he return it to the Rhine-maidens, or greedily keep it for himself?

Fortune Teller . . . Prepare for the future shock! No game this, but an uncannily accurate predictor of what's in the future for you. Touch a few buttons, give exact information on time, date and place of your birth, and **FORTUNE TELLER** will reveal details of love, marriage, adventure, health and much more . . . Based upon an astrology sys-

tem perfected by Hindu Yogis — for use on your own, at parties, or with the family — you can't afford to be without your own private oracle!

Both of these Status Software titles retail at £14.95. They run on IBM PC and compatibles, including the Commodore PC's.

Status are also releasing a 'supersparker', **Cyber I**. It is an arcade, 'shoot 'em up' game, featuring high quality graphics. **Cyber I** the last Federation Starship to survive an inter-galactic conflict with its opponents lunges and attacks in an attempt to kill a swarm of aggressors, whilst protecting his own mothership. A gun sight at the bottom of the screen is there to aid accurate gunning in this shoot to kill thriller. On Commodore 64 —£2.99.

Infocom goes to Hollywood

You take the starring role in **Hollywood Hijinx** a wacky tribute to "B" movies. Who can forget those outrageous "B" movies produced by your Hollywood mogul uncle, Buddy Burbank? Now he and Aunt Hildegard have given you the starring role in the zaniest production yet. You've inherited their entire estate — with one quirky stipulation. You can only claim your booty if you find ten treasures hidden throughout their sprawling Malibu home. If you can't find them all in one night, you lose the whole caboodle.

Scheduled for February release, **HOLLYWOOD HIJINX** was written by "Hollywood" Dave Anderson. "Hollywood" is a native Californian whose Hawaiian shirts and baggy shorts fit right in with the beach mural and goldfish that decorate his Infocom office.

Whether from first-hand experience or fertile imagination, Anderson has created an environment as kitschy and full of gags as any "B" movie. The house is Hollywood at its glitziest, with a gaudy round bed, bathroom faucets in the shape of Oscars, and a luxurious private screening room. There's also an enormous hedge maze, which Anderson designed with the help of 700 paper clips.

To add to the fun, you're treated to amusing anecdotes about your childhood with Hildegard, Buddy, and Cousin Herman, as well as descriptions of the offbeat plots and paraphernalia of Buddy Burbank's never-to-be-forgotten films. Even the "treasures" you seek are actually goofy props from old Buddy Burbank films.

HOLLYWOOD HIJINX is loaded with puzzles that recall the pure logic problems of **ZORK**. In one of Infocom's zaniest puzzles yet, you'll control a special effects creature from an Uncle Buddy science fiction classic.

Price £24.99 (64/128)

E.A. Goes Farther

Electronic Arts has announced the publication of a quarterly magazine, *Farther, The Electronic Arts Magazine*.

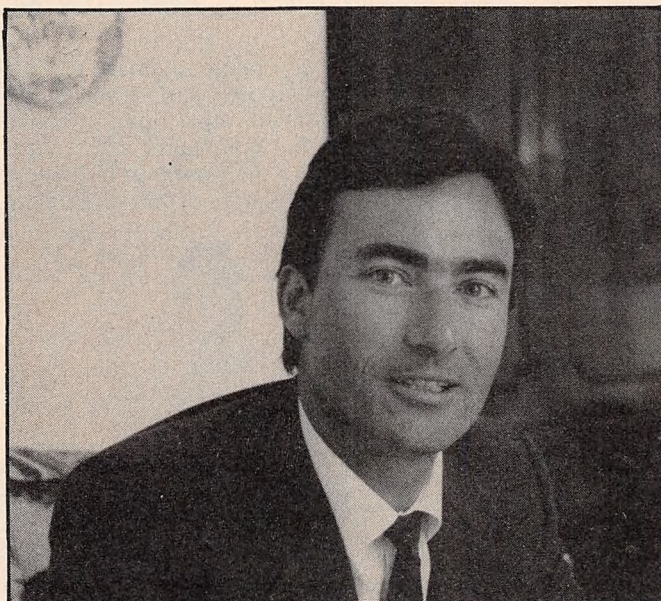
Feature articles will include a range of topics, from an extensive look at the elements that go into creating Electronic Arts programs to specific columns such as: *In Depth*, a column which will delve into the personalities of artists and software developers; and *A Few Moments With...*, a question and answer column which will spotlight the people behind Electronic Arts programs and their recent achievements.

It will also include *Farther Knows Best*, which reveals inside information on Electronic Arts' programs for the most popular home computers; Electronic Arts' *TOP TEN* and *All-Time Bestsellers*; editorials and Electronic Arts staff members; *Hard Copy*, letters from readers and consumers; *Electronic Arts' Questions and Answers*, a forum for the exchange of hints, tips and inside information about Electronic Arts' products; and *Life With Farther*, the gossip spot about goings on within Electronic Arts.

"Electronic Arts is dedicated to the idea of building software that makes people feel good about having a computer in their home," explained Trip Hawkins, President of Electronic Arts. "To do that well, we have to be good listeners, as well as good communicators. *Farther* is part of that: an outpost on the edge of the frontier where we can meet and share ideas about what comes next. Listening to our customers is the best way

we can think of to thank them for being an Electronic Arts customer, and for investing in our vision of what home computing can be."

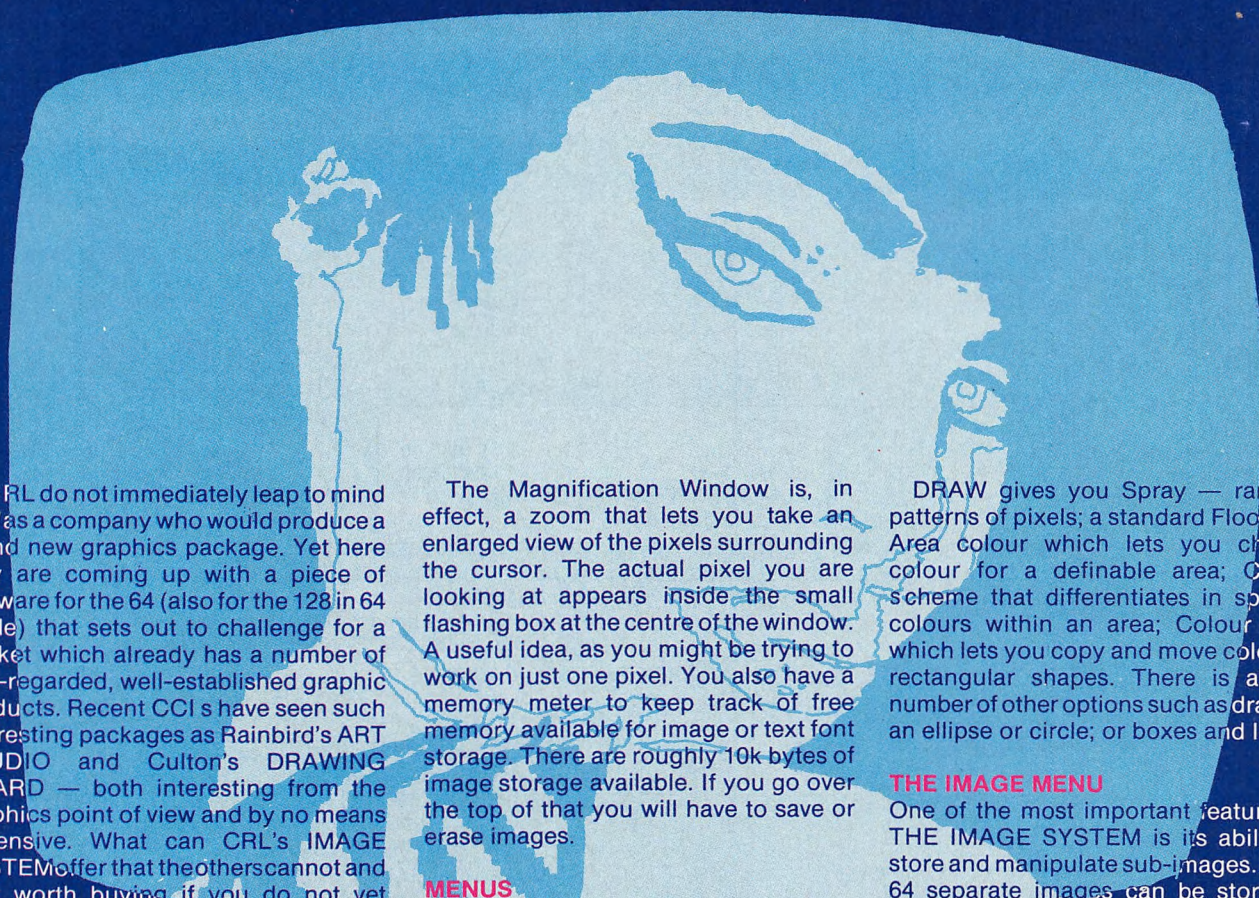
To subscribe to *Farther* all one has to do is fill out the warranty card found enclosed with any Electronic Arts products and return it to the company. The registered owner of the product will be placed on the complimentary subscription list to receive *Farther*, for one year.



Trip Hawkins — President of Electronic Arts.

THE IMAGE

CRL's new graphics package claims to be "a computer graphic package with a difference". Zack Skinner takes a close look to find out if he and you will be disappointed or be shouting "Vive la difference!"



CRL do not immediately leap to mind as a company who would produce a brand new graphics package. Yet here they are coming up with a piece of software for the 64 (also for the 128 in 64 mode) that sets out to challenge for a market which already has a number of well-regarded, well-established graphic products. Recent CCI's have seen such interesting packages as Rainbird's ART STUDIO and Culton's DRAWING BOARD — both interesting from the graphics point of view and by no means expensive. What can CRL's IMAGE SYSTEM offer that the others cannot and is it worth buying if you do not yet possess a graphics package?

Well, it is certainly not difficult to use. Most of the time, the rankest novice can make it work with no great effort of technique or creativity. Creativity, that's a word we'll come back to later. One of the reasons it is simple to start with is that it uses the familiar joystick for many of its commands — although it is recommended to use a tracker ball if you have got one. THE IMAGE SYSTEM has the helpful idea of using windows and pull-down menus to bring all its functions together and to make it easy to select the substantial number of relatively sophisticated operations that it makes available. Most of them you control with nothing more complicated than a squeeze on the fire button — not very difficult for anyone. You simply guide the cursor, arrow shaped like that of the AMIGA, onto the appropriate icon, press the fire button and you are away. There are only a few functions for which you have to return to the keyboard. One of these — the Commodore key — just lets you pull up the Master Control Screen to view the whole graphics screen.

The Magnification Window is, in effect, a zoom that lets you take an enlarged view of the pixels surrounding the cursor. The actual pixel you are looking at appears inside the small flashing box at the centre of the window. A useful idea, as you might be trying to work on just one pixel. You also have a memory meter to keep track of free memory available for image or text font storage. There are roughly 10k bytes of image storage available. If you go over the top of that you will have to save or erase images.

MENUS

There are eight main menus that give access to THE IMAGE SYSTEM's draw functions. Across the top of the Master Control Screen, there is a menu bar. When you move the cursor onto one of the menu headings, press the fire button, down comes an option menu. Moving the cursor while the fire button is held down lets you make your selection; releasing the fire button activates your selection. There are some sub-menus, such as the Printer option that will give you a further menu option. Some others, like the Clear Screen option, will bring down what THE IMAGE SYSTEM calls "Communication Windows. These contain restricted but important choices such as continuing or clearing the screen which you have to complete before the system will let you go on.

THE MENU LIST

These are the main menus
DRAW
IMAGE
BRUSH
TEXTURE
TEXT
PRINT
and the SPECIAL Menu.

DRAW gives you Spray — random patterns of pixels; a standard Flood Fill; Area colour which lets you change colour for a definable area; Colour scheme that differentiates in specific colours within an area; Colour copy which lets you copy and move colour in rectangular shapes. There is also a number of other options such as drawing an ellipse or circle; or boxes and lines.

THE IMAGE MENU

One of the most important features of THE IMAGE SYSTEM is its ability to store and manipulate sub-images. Up to 64 separate images can be stored in memory for later retrieval. Each image is essentially two-dimensional but can be scaled and distorted with very little restriction to provide effects normally only associated with expensive systems. An image can be anything from a single pixel up to an entire screen — though practical limitations such as available memory space will not permit many very large images to be held in memory simultaneously.

You can print the resulting image to the graphics screen. The prepared box can be moved freely around the screen and printed repeatedly. You can eliminate specific pixels from the image during printing to give the illusion that certain part of your image are transparent. Rather a bright idea.

THE BRUSH MENU

THE IMAGE SYSTEM supports 32 user re-definable brush templates for drawing purposes. The templates are used as 'masks' for the associated texture patterns.

The entire set of brush templates can be saved to tape or disk and a new set loaded.

SYSTEM



You can print the actual brush template onto the screen enabling you to edit its shape. All brushes are 16 pixels wide (8 in Multi-colour mode) by 16 pixels high.

THE TEXTURE MENU

As well as the brush templates, THE IMAGE SYSTEM also supports 64 user-re-definable texture patterns. Like the brushes the patterns are 16 pixels wide (8 in Multi-colour mode) by 16 pixels high. Any texture can be dumped to the screen for subsequent editing.

THE SPECIAL MENU

This menu gives you some helpful utilities like Cursor Speed adjusting from very slow — which may be suitable for detailed joystick control — to very fast which is intended for working with tracker-balls.

For those who wish to use pictures in their own programs there is a simple Basic program which loads and displays pictures created using THE IMAGE SYSTEM.

The manual provided for this range of features is, believe it or not, very short —

painting facilities THE IMAGE SYSTEM lets you create your own text fonts. It also cleverly lets you zoom, scale, rotate even fold your pictures in a simulated 3D environment. Well, it is true to say that not all graphics packages of this level do provide all these facilities, especially at this price. However, in most cases you could probably make out reasonably well if you tried hard enough with what they have — or were sufficiently expert. What I think makes this package an excellent buy is not that at all. It is, apart from the low price, the exceptional ease of use.

It is clear that anyone could use this package to produce some very adequate graphics results. The menus are simple to use and the whole IMAGE SYSTEM is really 'user friendly'. You put it up and away you go.

Some of the results that have been produced by experienced artists you can see on these pages and no-one would be ashamed to call them first class. One of the others has been used on the cover of this CCI. I have seen worse results produced on much more expensive systems or even on the AMIGA, which is the standard by which all graphics is today beginning to be judged.

And that brings me back to "creativity". CRL claims that THE IMAGE SYSTEM will "let your creativity flow". There's no doubt that is an absolutely true claim. It is a package that you can master in a reasonably short time. It has lots of easy and attractive features. It can be an ideal package for a first-timer in the graphics field. It will let you be as creative as you have the imagination to be. At its price, it has got to be an excellent graphics bargain.

Z.S.

THE TEXT MENU

THE IMAGE SYSTEM also provides a fairly flexible text printing facility. Up to 90 different characters can be produced directly from the keyboard. Entire fonts can be saved to disk or tape and new fonts loaded in as required. Individual characters or completely new fonts can be defined using the text grab function. Text characters can be any size from a single pixel to an image up to 32 pixels wide (16 in Multi-colour mode) by 48 pixels high.

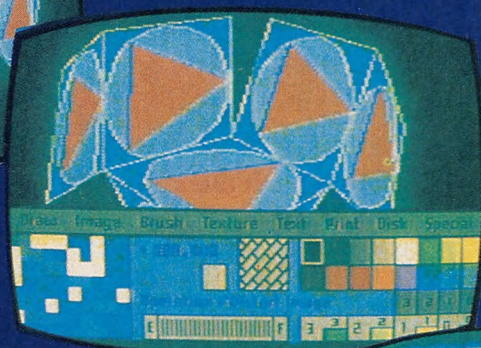
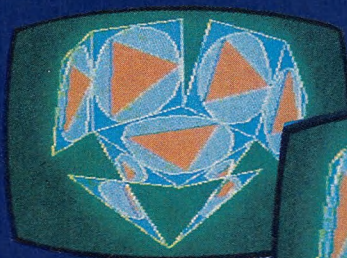
THE PRINT MENU

THE IMAGE SYSTEM provides for producing hard copy printouts off the graphics screen with Commodore matrix printers connected to the 64's serial port and Epson compatible printers connected to the user port via a Centronics standard interface.

For users with disk drives a set of useful utilities has been provided. Disks can be formatted, files scratched or renamed and the current disk directory can be examined.

12 pages — and sharply to the point. It is easy to follow and is clearly written for the non-expert.

The "Difference" that CRL claims for its graphics package is that, in addition to providing the usual drawing or



Auf Wiedersehen Monty

Poor, persecuted Monty Mole, who was incarcerated by the bastions of the law for borrowing coal to keep warm, has escaped and fled these pleasant isles.

Lying low in Gibraltar, Monty's whereabouts have been leaked to "Intermole", who are in hot pursuit!

Can you help Monty in his last fight for freedom? He must flee for his life across Europe, in an effort to raise enough money to buy the Greek island of Montos. On Montos Monty will at last escape extradition as no one else even knows of its existence.

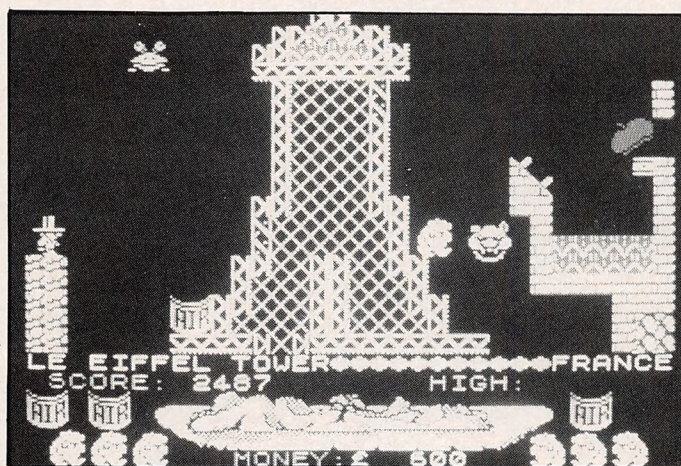
Travel across the continent with our mole, 'acquiring' travellers cheques and many other valuables on your way. Could Monty make a few Francs from fencing the Mona Lisa? Can our intrepid Mole repair his car in time to compete in the Grand Prix? The prize money could come in handy. The Mafia may help him if he can avoid the 'heavy duty footwear'.

Romance awaits Monty in Venice in the form of 'Mole Fatale', the fair Juliet. Her heart begs to be captured by a darling Muscle Mole — is Monty her mole?

As every illegal alien knows, a Swiss bank account is a

The follow up to Wanted: Monty Mole, Monty is Innocent and Monty on the Run, AUF WIEDERSEHEN MONTY is the ultimate Monty adventure. Written by the author of the first 'montyventure' — PETER HARRAP, Auf Wie-

so popular with the software buying public and many will be sorry to see him go. Monty will be with you shortly.



must, especially if you're a mole 'cos they don't have pockets! Monty must arrange his finances before he's able to retire in comfort on Montos, so guide him to Zurich and a numbers only account!

dersehen will appeal to the cult following that Monty has acquired.

Gremlin have put their heads together to create the last in this popular series. Never has a character proved

GAC Adventure Writers Handbook

Incentive have just released a fifty page booklet for GAC adventure writers entitled the GAC Adventure Writers Handbook (GACAWH for short!).

The book is compiled by several authorities on GAC and includes many chapters including: How To Write a Good Adventure, Multiple Loading Techniques, What is a Condition?, Markers and Hints on Text and Graphics and a list of Adventure Clubs and Magazines.

Price: £1.25.

Contact: Incentive Software Limited, 2 Minerva House, Calleva Park, Aldermaston, Berks. RG7 4QW.

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(If you don't want to cut up the magazine, we're happy to have a photocopy of the coupon or a request on plain paper.)

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Timeworks SWIFTCALC-128 with SIDEWAYS

In all honesty the arrival of yet another spreadsheet for the Commodore 128 was greeted with groans at the Donald mansion until I realised that this was different. Not only does it include a graphics option but also the facility to print out very wide spreadsheets, viz. those wider than 80 or 132 columns, by rotating the text through 90 degrees — very clever stuff indeed. So let's take a look at **Swiftcalc-128**.

The product is designed for use on the Commodore 128 in 80-column mode supporting either monochrome or colour — there is no provision for 40-column display. Loading is commendably fast and a spreadsheet of maximum dimensions 250 rows by 250 columns is available. Timeworks Ltd, the supplier make a variety of software products for the Commodore 128 including their **Data-Manager** and **Word-Writer**, a database and word processor respectively. These can interlink data together although on testing **Swiftcalc-128** with competitive products such as **Super-script-128** and **Superbase-128** presented problems — the files are incompatible. I decided against examining the files on the disk with an editor purely on the basis that it was too much messing around and the manual provided no clues as to the filing structure. A disappointment this since this form of *locking-in* users with your own range of products is ultimately short-sighted in the long term. So gentlemen, I'm still looking for a *standard* spreadsheet for my 128D.

The manual supplied with **Swiftcalc-128** was excellent, 191 pages with the bonus of an index and examples shows that, at last the software houses are getting the message about poor quality manuals. It is easily the best I have seen for any Commodore 128 spreadsheet — a pity the author(s) does not get a credit for a work to be proud of. Printer support includes both RS-232 and Centronics (both from the User Port) in addition to the usual Commodore series printers. The technique which the **Sideways** option uses is to switch the printer into graphics mode — users should note that this can be heavy on your printer ribbon which needs to be either a new one or nearly-new in order to gain the full benefits of this option. Note that **Sideways** is a separate program from **Swiftcalc-128** and thus needs to be run independently. The spreadsheet operates on a *pull-down* menu which is accessed by means of the **escape** key. The headings and

contents of each of these is as follows:

Graphics	Functions	Delete	Tab
Vertical Bar Chart	Format	Delete Block	Tab Set
3D Bar Chart	Width	Delete to End	Tab Clear
Scatter Plot	Move		
Line Plot	Copy		
Pie Chart	Sort		
Exploded Pie Chart	Search		
Printer Options	Search & Replace		
1525/MPS-801	Memory Remaining		
1526			
Epson 1			
Epson 2			
Panasonic			
Okidata			
MPS-1000			
Print	Disk Commands	Quit	
Print Spreadsheet	Save File	Reset Swiftcalc	
Set Printer	Load File	Return to System	
Change Page Length	View Directory		
Change Line Length	Erase File		
Create Sideways File	Rename File		
	Save WORD WRITER File		
	Load DM/SWIFTCALC File		

A flaw in **Swiftcalc-128** manifested itself in the selection of *set printer* option in the **Print** menu — with the printer off-line or not connected, the system locked completely. Obviously the programmer had either disconnected the IRQ from the RESTORE key and not provided the vectored restart or failed to provide a *timeout* recovery mechanism in the printer driver — either was not good programming practice, the user should always be provided with an escape route from any situation.

The functions provided can handle up to 17 digits, although do not be fooled into thinking that this is the numeric precision, this is a function of the operating system and processor. The usual spreadsheet and mathematical functions were provided along with financial functions such as *present* and *future* values of variable or fixed sum. A limited level of programming was built in by the appearance of an *if-then-else* logical control. Another useful feature of the functions was the *Range* facility. This allows the testing of a range of values on a *what-if* basis although this could only operate by reference to the cells numbers directly, it would have been nice to define and use *named* ranges which are much more convenient.

Probably the most impressive feature of **Swiftcalc-128** was the graphics functions. These were wide in scope but also very quick to appear on the screen. The charts appear very quickly indeed after definement of the parameters — not as quick as an AMIGA, but not all that far behind either and certainly the

fastest high resolution graphics I have seen on a Commodore 8-bit machine. I would guess that the programmer is holding a complete screen in the 80-column memory continually thus all that is required is resetting the screen address.

Provision is made for an on-line *Help* facility which appears as a window. This scrolls to reveal the full range of available functions although it could be clearer to the user that a scroll action is necessary to access the rest of the window. The help is useful but one particular aspect of **Swiftcalc-128** that did not please me was the use of the escape key to end a request. This key is an obvious choice for beginning a request but I felt that the RETURN key was the logical candidate for completing a request. Incidentally the supplier also operates a technical support facility for users with tricky problems. Very useful.

Overall, **Swiftcalc-128** is very good but could possibly be made better. The design philosophy has clearly been based on that of an earlier product for the Commodore 64. This was acceptable in the days when users had to contend with 40 columns and the programmer had to fit it all into 64k. However, at this level of the market the demands and expectations of users have changed considerably since the arrival of hardware such as the Commodore 128. Nevertheless a good product living up to the Timeworks standard.

B.D.
Price: £57.50
Supplier: Timeworks (UK) Ltd., P.O. Box 453, MAIDENHEAD, Berks. SL6 1ST. Tel: 0628 74678.

128 Hit by Blitz

The 128 version of the basic compiler BLITZ.

If you want to supercharge your basic programs, make them run much faster without writing machine code, then this is for you.

Supersoft, one of the few companies still specialising in Commodore software, have released this version for the 128, 18 months after the release of the very successful 64 version. One thing I like about this latest version is the new price. Talk about value — the original BLITZ 64 sold for £50 last year — the latest prices must be a snip! For £29.95 you get the 128 version or £19.95 for the 64 disk and £14.95 for the 64 tape version.

There is a real need for the programmer, who has not progressed on to machine code, to have his tortoise pace basic programs speeded up. The publishers, in their literature, claim to produce increased speeds of 5, 10 or even 20 times faster! However the programs I converted to BLITZ averaged an increased speed of only around 1½ times. I don't know what I get wrong!

The new 128 version is, of course, now highly compatible with all of the basic V7.0 and, indeed, with some of the basic extensions available. BLITZ is so easy and simple to use. The 12 page instruction manual that accompanies the compiler is concise enough. With an explanation of the six options and five different modes of operating. Error correction and debugging is covered along with further comments on BLITZ v's basic, in order to help your original program gain more speed if the basic copy is written the way BLITZ likes it to be.

The different options available are for either supporting full basic V7.0 syntax or a limited syntax that has no collision command or resume with a line number rather than a variable. Single, dual or two single drives are catered for. If you're lucky enough to have two drives, then the modes you can operate in are greatly increased. These extra modes include batch compilation, linking programs or chaining.

After selecting your option and mode BLITZ takes over and converts the basic program into 'P' code — a kind of half way house to machine code. When finished, the compiled program is automatically saved to disk. The new directory name contains a prefix "C/" along with another "Z" cross reference file. The later file is only necessary if you have to trace an error that may have occurred during compilation. It is

particularly important that your original basic copy does not contain any bugs as it will show an error during compilation. A program that you know works without any hitch will be fodder to BLITZ and always converts without any problems. The compiled program also disables list.

BLITZ condenses basic to around 60 per cent of its original size. You would expect to see the finished program size to be smaller but there is, however a snag — isn't there always? BLITZ carries a large overhead to cater with the new 128's basic — a staggering 11K — opposed to the 6K for the 64 BLITZ

version. This is to allow space for "run time routines" for each program. This means that you only save space on programs that contained 28K or more. I am sure that it is a small price to pay for the convenience of faster programs.

I must say that Supersoft have a very worthwhile product in BLITZ 128. This has to be a very easy way for the basic programmer to have the extra speed needed to make his basic programs run at a more professional pace.

B.C.

Supplier: SUPERSOFT, Winchester House, Canning Road, Wealdstone, Harrow, Middx. HA3 7SJ.

COMPETITION RESULTS!

CAPTION COMPETITION

1st: Chris McLean, Cheshire.

2nd: J. M. Jones, Dumfriesshire; D. T. Lynch, Kent.

64C CAPTION COMPETITION

1st: J. Wainwright, Pontefract, W. Yorkshire.

2nd: Sean Perry, Hyde; David Bell, Swindon; Russell Furnival, Runcorn; L. Shannon, Gwynedd; Jon Sheppard, Walsall.

DRACULA COMPETITION

Lee Russell, Forest Gate, London; J. Tyrell, Liverpool; Geoff Bayliss, Fife; K. Evans, Liverpool; Chris Garbutt, Basildon; Craig McCullough, Co. Down; David Connor, Liverpool.

UCHI-MATA COMPETITION

Helen Howe, Ashford.

SIMULATIONS

Chris Garbutt, Basildon; P. Evans, Liverpool; Mario Crouch, W. Germany; P. Cheesbrough, Cumbria; P. Whalley, Essex; S. James, Salford; S. D. Lann, Southampton; R. Palmer, Stafford; A. A. Protano, Salford; Emil Mazur, Cheshire; Michael Clarrie, Manchester; David Connor, Liverpool.

LEAPER (Disk Drive)

Mrs. M. Morgan, Fife, Scotland.

FINDERS KEEPERS

David Connor, Liverpool.

FIGHTING WORDS

The Jeff Minter Page

There are not many real stars in the computer world, but among them undoubtably glitters Jeff Minter, creator of innumerable smash-hit games. We've given Jeff the freedom to say what he wants (libel laws permitting!), so look out for his hard-hitting pages in future issues of CCI. You may not always agree with what he says, but he's certainly worth listening to. CCI won't always agree with what he says either, but we promise to print it anyway!

A high altitude article this month: I'm writing this in my flat in the French Alps, it's snowing outside making the pistes even better. I just got back from a morning's skiing (there is nothing quite like a good ski to get rid of a hangover!) I've got a C128 here and I'm putting in a few hours a day on Revenge II in between the piste and the bar.

I'm sorely missing my Atari ST, for Colourspace (Psychedelia on the Commodore just ain't the same) and also for writing this article — I haven't written a substantial amount longhand since I was at University, and my handwriting is completely shot.

At last we've seen the new AMIGA, the A500, and I must say it looks exactly as I expected it to; sort of a cross between a C128, same spaceship shape, and an ST. Gone is the daunting IBM-PC look of the old Amiga, and a good thing too. The A500 looks like a home computer, not a business box. When it's released it should have Kickstart in ROM, which is a relief, because one thing that has always annoyed me about the Amiga was that the operating system codes was always in a constant state of flux, and you could never be sure that your old software would run under a new release of Kickstart.

Given that Commodore can achieve the expected £500-odd price level for the A500, the Amiga should finally start

to do great things. The A500 is what Commodore should have released in the first place; if they had, I suspect Atari would have had a hard time trying to sell the ST alongside it. As it is, the new Amiga should do very well as a logical (and affordable!) upgrade path for C64 owners, and the ST, being already well-established, won't die out; but I think that the introduction of the A500 will prompt Atari to dish out some hefty cuts. Look for a £200 ST sometime this year. £200 for a 512K 16-bit machine represents extraordinary value for money, and I see no reason why the ST should not sell strongly, alongside the A500.

Between them, the A500 and the ST will become the main-line machines of the 16-bit home market, much like the Commodore 64 and Spectrum are in the 8-bit market. 8-bit stuff will gradually die out, and within two years the C64 will be as dead as the Vic 20 is now.

This will, of course, cause a major upheaval in the software market. I don't think that there will be as many very young (sat 12-14 year old) owners of the new machines, at least at first, for unless they have very rich daddies indeed they won't be getting an A500 for Christmas! The owners of the new machines will be people who have had 8-bit machines, and who actually have an interest in machines, maybe programming or generally using the machines for a genuine purpose, not just games. So Johnny who has a 64 and tape deck and one joystick and just uses it as a games engine probably won't get an A500, but Jimmy who has a disk drive and a modem and is learning machine code etc., probably will.

But if you look at the software market, and specifically the likes of US Gold and Ocean *et al.*, you see that their whole existence is geared to selling to the schoolboy — games-machine type of user. These companies will have to begin producing quite different types of software for the 16-bit scene — conversions of old games just won't do. For a start, 16-bit stuff won't be at pocket money prices. To utilise fully the potential of one of these new machines takes a lot of time and creative input on behalf of the programmer, and such things don't come cheap. Plus, our 16-bit user is likely to want to more than just play a game. He'll want to be doing

something more — designing his own games, making music whatever. The great thing about the new machines is that they have the power to make the creative process more accessible — even a non-artist can produce satisfying results on Neochrome or Colourspace, and someone who can't even read music can enjoy using instant music on the Amiga.

There will still be a market for good games, but it won't be as large as the 8-bit market, where games constitute just about the whole scene (how many utilities have you seen in the Top 10?).

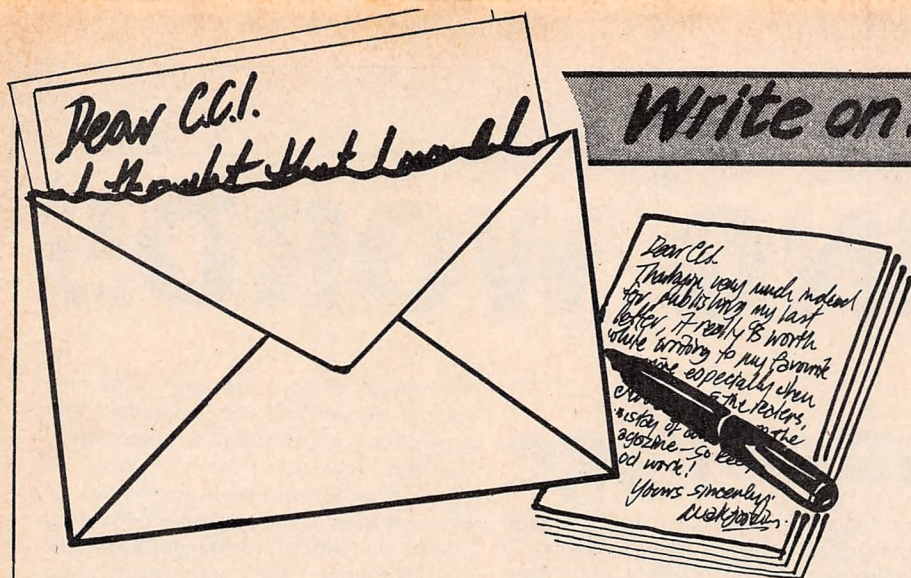
So in the new 16-bit era, look for a decline in the volume of games being produced, but an increase in quality; and look for a new generation of programs which use the power of the new machines to make the creative process in a variety of areas more accessible to the user. This type of software shows the way in which the software market is maturing; rather than the machine just being a 'toy' to play games on, it becomes a genuinely useful tool to provide easier access to the creative urge which lies within all of us. Basically, technology takes the place of a lengthy learning process, allowing us to develop more creative skills faster than has previously been possible.

Enough of this brave-new-world stuff anyway, and on to something more mundane but which might have a very satisfying twist to it: Both Atari and Amstrad are releasing games-only machines in the near future; the Amstrad based on the Spectrum (euch!) and the Atari based on the 8-bit Atari. If these are successful, Atari are thinking of releasing another game machine, this time based on the ST. Now, if this all comes together and Atari and Amstrad start making heavy bread in the dedicated game market, would it not be natural for Commodore to want a slice of the action? And guess what machine they'd use? The Amiga, right? If you know your Amiga history, you'll know that the Amiga was to be — a dedicated games machine! So during the course of its history the Amiga will have gone from game machine to business machine then home computer (via the A500) and finally back to its original, intended purpose. Very satisfying completion of the circle.

Well, that's it for this month — I must get back to more important things — like improving my skiing and getting a good tan!

J.M.

Write on...!!



modore magazine on the market. I shall carry on reading your magazine knowing that it will carry on improving the way it already has. Thank you for a truly fantastic magazine. Keep up the great work.

Your sincerely

Thomas F. Reid, Renfrew, Scotland.

Another satisfied customer...

Dear C.C.I.

I am one Dave Clough, proud author of "3 Programs" as printed in your Jan 87 issue (page 196).

However there are no instructions with the programs which renders the last two completely useless. The vital instructions from PROGOBB 1 and 10 are: 1 On line 1 put the number of the last line number you want erased 2. Execute by RUN 5

3. On the INPUT (?) prompt enter the first line you want erased There is a mistake on line 0. It should read $0 \times = \text{PEEK}(829) * 250$ & $\text{PEEK}(828) : \text{PRINT}$ " " shift/CLR X: PRINT RUN

Yours

D. Clough, London.

P.S. If you have any vacancies on your staff I'm not doing much just at the moment.

Thanks for passing on the info...it should clear up any confusion. As for a job, well Super Felix needs an assistant leg-puller is you're interested.

Dear C.C.I.

I like your magazine a lot (as so do others). But why do you make everything big for the 64? I myself own a Plus/4, they are excellent computers! I've also noticed you being fair. Thank you very much, and I would recommend CCI to all, who have no magazines. And please, please apart from showing games, please show books. By the way, Amigas are fabulous, the best computers in the world. Anyway take this in the interest of the Plus/4 readers. And don't underate these computers, I have a lot of friends who have the same computer. 128s are much better than Plus/4s but please appreciate this superb computer. I am a professional programmer, 11 years old.

M.A. Spear, Wales.

Wow, a professional of 11. Computing is getting younger and younger. Keep at it M.A. Spear!

Dear C.C.I.

Is the only way to get a letter published in your magazine by grovelling like Mr Bissell? (CCI March '87).

I too am an unfortunate Plus/4 owner. I say unfortunate for one reason only and that is for the lack of software. Thank goodness for Anco and Novagen, let's hope they keep them coming.

Now, what about CCI? Having tried all the others I just admit you're good, but don't get too big headed yet.

I would think by now software manufacturers would have learned that there is a market for Plus/4 software alone and not just C16 — Plus/4 compatible. So come on you big guns out there, let's have some of those C64 blockbusters converted to the Plus/4, it can be done.

And I would think that CCI could put some pressure on these companies publicity-wise — just think of the extra revenue you would get from more advertising.

Thank you for supporting the Plus/4 and I wouldn't mind becoming a software reviewer if you're short.

Yours, nearly as satisfied as Mr Bissell

K. F. Todd, South Yorkshire

We're keeping up the pressure on the software houses for more Plus/4 stuff but they're hard nuts to crack. When we get loads of Plus/4 software in, you'll be hearing from us about reviews!

Dear C.C.I.

I have been a regular reader of your magazine since its beginning as Commodore Horizons, and I have finally decided to write and tell you how good your publication is. As an owner of a Commodore C16, I, like many other C16ers have suffered from a lack of coverage of software etc for this micro. I have noticed, with great delight, the increase in coverage which you give to the C16, and I hope this will continue for years to come.

I must also say how delighted I was to see my name appear as one of the winners in a C16 competition, published in the December 1986 issue. I look forward very much to receiving my prize. I must add that it is good to see that C16ers are well catered for when it

comes to competitions.

A major reason for my writing to you at this particular time is that I have been unable to buy the January 1987 issue of CCI. I would like to know if you can supply back numbers of CCI as I also do not have the September 1986 issue either! Before I go, I would like to say that many of your recent features about major software houses have been most interesting. It was especially good to see the one about Gremlin, a company which fully deserves praise, especially from C16 owners, for its continually-expanding catalogue of C16 software. As far as CCI's reviews are concerned, I do feel that in general, C16 reviews are a little too short, and very often, even though most games get a good review, it is never clearly stated what makes them so good.

Apart from the odd criticism, CCI has improved beyond all recognition as a computer publication, and provides a good balance of reviews, news, features, and competition, and I look forward to even more interesting features and perhaps new ones appearing in future editions. Many thanks for producing a magazine of excellent value!

Best wishes to all at CCI,

Barry Bowman, Prestwich, Manchester

Thanks for the compliments! Back issues are available at the price of £1.25 each (inc. postage). Send a cheque or P.O. to 'CCI Back Issues' at our address on this page.

Dear C.C.I.

As a PLUS/4 user I would like to congratulate you on producing a very good and interesting magazine. There is something in it for everyone especially for the C16 and PLUS/4 users.

Since I started buying CCI in December 1985 there has been nothing but improvement in your magazine. Your support for the PLUS/4 has put other Commodore magazines in the shade, and made software houses release decent software both business and entertainment.

Your games, business and book reviews are very well balanced as are the hints and tips, and programs. All in all this results in being the best Com-

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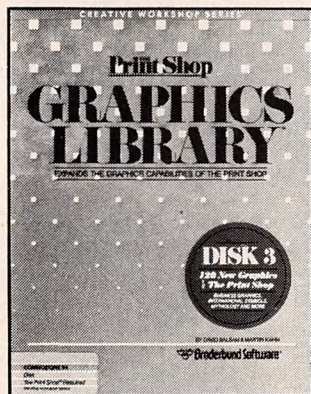
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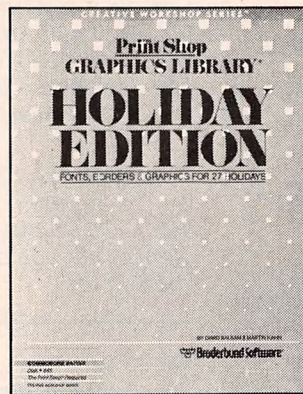
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Dear Rae...

This month your letters are answered by Rae West. Rae is the author of three large reference books on Commodore computers; the latest is Programming the Commodore 64, following Programming

the VIC and Programming the PET/CBM. All are published in the UK by Level Ltd. Rae is also published in the USA by Compute! Books.

TRANSCRIPTION PROBLEMS...

Dear Rae,

'I entered 'Data Detective' (another program to print the day of week given the date) but all I get is a syntax error on line 10...

A.Allen

Line 10 in question (DIM M(12): For I=1 TO 12: READ A: M(I)=A: NEXT) certainly works on the Plus/4; you must have a typing error, which could be cleared up in seconds with a look at what you actually have on tape or disk. The Plus/4's Help Key may give you a clue where the mistake is. I'd guess you may have confused 'I' with '1', or possibly entered the program in shifted mode.

Dear Rae,

'I'm working on a C64 machine language program involving the movement of a ball, which I want to get as smooth as possible. The interrupt routine (which reads the keyboard, controls the cursor flash, etc) is obviously an important factor in the timing of animation, and I experimented to find its exact time by putting a wedge into \$0314/5 to start timer B of CIA2 at \$FFFF. A loop checked and deducted the value of time B from \$FFFF using the FAC routines and printed the value out. I found it difficult to believe the result of approx. 9000, implying half the processor's time was spent servicing the interrupt.

like it: 0INPUT "INTERRUPTS/SEC";T: D.N.Hookings, Criccieth.

Yes, I have. I have to say I think your industry is a bit misplaced! In the first place, the sort of program you're writing is hard to debug; CIA2 may, for example, be generating NMI interrupts (see p.127 of my book); or your maths routines may have errors. In the second place, the interrupt routine doesn't last a fixed time; a keypress, or multiple keypresses, send the routine off throughout the ROM.

*Try this simple program or something like it: 0INPUT "INTERRUPTS/SEC";T: TT=1000000/T: HI%=TT/256: POKE 56324, TT-256*HI%: HI%: LIST which sets the IRQ timer to generate the requested number of interrupts per second. You'll find the 64 can handle over 30000 interrupts per second. Generally, the 64 spends less than 1% of its time of interrupts.*

128 and 64 COMPATIBILITY...

Dear Rae,

'I've purchased a 128, one of the major reasons being that all 64 games were

absolutely compatible with my 128.

However, I have a game called 'The Double' which loads perfectly on the 64 but on the 128s at my disposal I get a black and white screen.. the reset switch flips on the game for a split second..'

D. Cole, RAF Laarbruch.

Yes. The 128 in 64 mode (you don't say so, but you must know that 64 mode on the 128 needs, for example, GO 64?) isn't absolutely compatible. One difference is in its VIC chip, which has an extra register tacked on the end which sets the processor in fast mode, switching off the screen in the process. It may be that your game alters this register, in which case there's little you can do except disassemble the whole thing and look for the relevant code.

Since there are loads of other games for the 64, I'd suggest using them instead.

BUSINESS QUERY...

Dea Rae,

'I'm interested in buying either a Commodore 128 or an Amstrad 6128. My intention is to use it for computer records. I require a program that keeps ledger sheets for about two hundred debtors, seventy creditors, a cash book and bank balance...'

Pierre Debrincat, Malta.

I'd suggest you enquire about Microclerk, a program for the 128 available from JCL Software, of Tunbridge Wells, Kent. This could be just what you're looking for.

Dear Rae,

'Your magazine's excellent Printer Enhancer program (Nov. 86) unfortunately has several print symbols I can't decipher, on lines 100, 60235, and 60285. How should they be entered?'

Ivor Gertler, Acton.

As I've mentioned before, programs listed on daisywheel printers, or non-Commodore compatible dot matrix printers, can't manage Commodore's graphics character set. Often these are drawn in by hand, and can be hard to decipher. However, only a few occur often (except in some graphics programs), chiefly the 'clear screen' and 'home cursor' characters. All these show up in print statements within double quotes. Try pressing " followed by, say, the HOME key if you're not sure about this. 'Reverse on' and the colours need the CONTROL key to be pressed too.

Dear Rae,

'I get an 'out of memory' error on line 130 of your 'Printer Enhancer' program. It is frustrating! Please help!'

V. Brooks, London SW1.

The line is 130 DIM BO(490),TP (490),CT(490),CB(490). Four very large arrays are being defined here. My book 'Programming the Commodore 64' (Enquiries: Biblos, on 0403-710971) in its section on storage of variables shows that each of these arrays takes up 2462 bytes, so four will need nearly 10K of memory. You may simply have lengthened the original too much, e.g. with REM statements.

To cure this problem, add line 129 PRINT FRE(0): END which will stop the program after telling you how much space it has just before the arrays are set up. You can then trim your program to fit.

Another approach is to use integer arrays (i.e. BO%(490) and so on; these take less than half the space — provided, as seems to apply here, that each element of the array is an integer, between about -32000 and =32000.

INTERRUPTS!

Dear Rae,

'I've been trying to get a sprite to travel across the 64's screen whilst still being able to type commands in Basic. Please explain interrupts before I go mad trying.'

M.A. Smith, Bures Suffolk.

There's simply not enough space to explain fully. The idea is that, with near-absolute regularity, the 64 stops what it's doing every fiftieth of a second and looks at the keyboard, the tape ports, and a few other things. This is called a 'background' program. To add your own extras to it, you'll need to know machine language, and how to write your own extra interrupt routines.

I'd suggest you read my book; page 272 has a detailed breakdown of what to do, and the techniques can be used, like polling, the uses of clocks, and the use of special locations to activate background programs. For a newcomer, stick to IRQ interrupts; the 64 uses non-maskable interrupts (NMIs) too, but it's best to stick to one type.

My book has plenty of examples, e.g. to read joysticks, and a music reading and playing program which is timed by interrupts.

As a simple taster, try POKE 56235,3 or 2. This speeds up the interrupt rate so much that screen editing becomes difficult. A smaller value, such as 1, slows basic very noticeably (try LIST), since there are so many interrupts.

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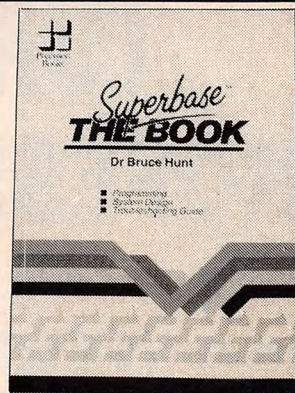
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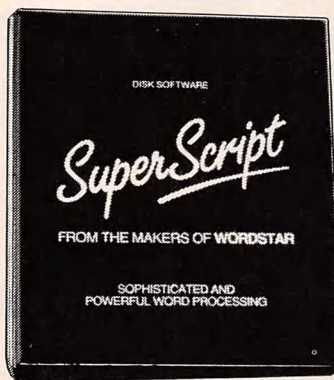
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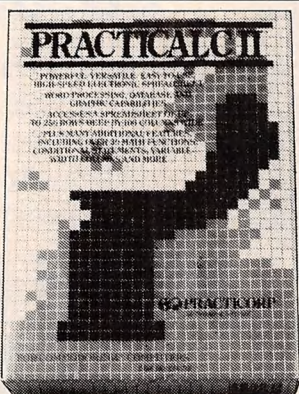


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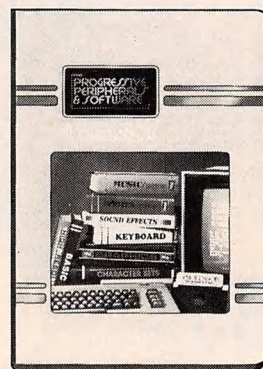
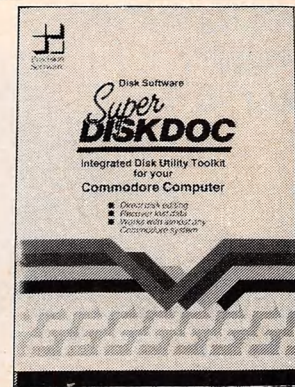
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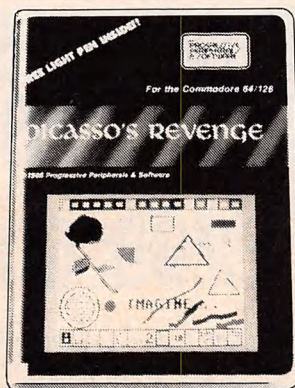
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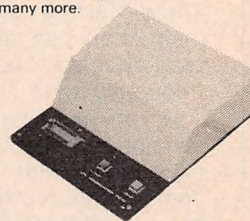
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VOICEMASTER

By ANCO



It is quite a time since a full sound package emerged for the 64. And, in fact, that still goes as true. For THE VOICEMASTER is not as new as it might seem. It is a US development that appeared early last year in the United States and has been talked about ever since in other countries with a kind of desperate longing. A few copies arrived, slightly smuggled and its fame spread. ANCO themselves have been promising for some time — waving bits of tempting information in front of our anxious noses, as if to inflame our ravenous appetites for what promised to be a very interesting development in a field — sound — where all too rarely these days is anything new to be seen or heard. Personally I suspect that VOICEMASTER itself goes back longer than just 1986 and was an earlier product that has been improved. Anyway, at least it is here and ANCO were kind enough to get CCI the first real look at it. There are some consolations for working on a magazine that everybody believes is not biased!

The VOICEMASTER arrives with both disk and cassettes. 2 cassettes marked Version 4.0 which is what leads me to think that this is an improved rather than brand new product. It takes quite a while to get to 4.0 of anything! It also contains hardware — the necessary leads and plugs etc, earphones and a flat box-shaped Speech and Music Processor. There is also a comprehensive 44 page instruction manual that you will have to read once and then to which you will frequently refer.

If you are new to VOICEMASTER style product you will probably wish to experiment with some of the many demonstration programs contained on the VOICEMASTER disk or cassette, such as a talking calculator, blackjack game, and others.

The VOICEMASTER disk contains essential utility software as well as a number of demonstration programs. It has three main functions, speech recording and playback, word recognition, and music writing from voice input. But to do this best you will need a separate manual. Speech recording and playback can be had in combination with word recognition so as to implement a two way dialogue with the

computer. A speech recording can also be modified with forms of editing to improve quality and intelligibility on playback (or to create sounds not like those recorded).

Cut and Paste

VOICEMASTER may find its greatest use in recording speech for later playback. VOICEMASTER hardware is not required for playback from pre-recorded vocabularies. High quality speech can be realized with various forms of editing. There are different variations of the ANCO speech editor. The one contained on the VOICEMASTER disk is an amplitude editor. A more sophisticated version which allows "cut and paste" operations with time slices in the millisecond range as an option. (It is called "Speech Construction Set".)

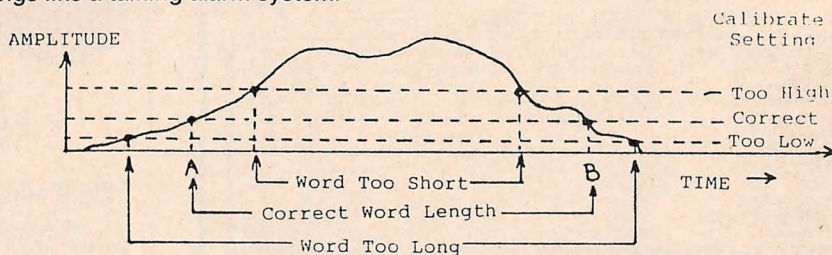
The VOICEMASTER manual asks you, more or less, what you want to do. It makes certain suggestions (and then tells you how to do something) but the options it provides are really limitless. You can do simple things like make a talking keyboard or a talking cash register or go onto more interesting things like a talking alarm system.

obey your spoken commands (Not all of them! you have to be careful what you ask it!). It will store up to 64 sounds in memory and let you add speech to your own programs. It has a user definable sound sampling rate and it includes a graphics based speech editor for making up your own sounds.

It will recognise 32 words or phrases initially and you can add more words yourself and it will, through its "Musical Harp" software, convert the pitch of the human voice or other sounds into musical notes up on the screen. And it will then let you print out your "composition" (and it may sound and look very odd indeed!) onto a dot matrix printer.

It has some special options for the more advanced computer musician: it has software drivers for MIDI; machine language source listings, voice activated macros and its high quality "cut and paste" system — "Speech Construction Set" — lets you create your own electronic speech.

This is a package that will certainly



Effects of Calibration Setting

All of these ideas, as it is careful to point out, need some familiarity — though by no means much expertise — with Basic. You will have to type in little programs to be able to achieve exciting results.

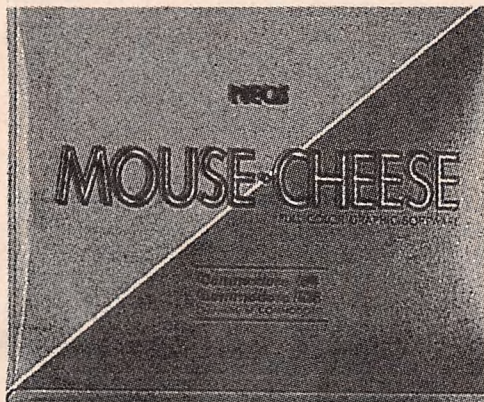
And you certainly can do some amazing things. Amazing when you consider what it would have cost only a year or two ago to get this sort of thing done professionally — and now for £59.95, you can do it yourself!

For example, you can get the computer to talk back to you in what approximates to your own voice. It will

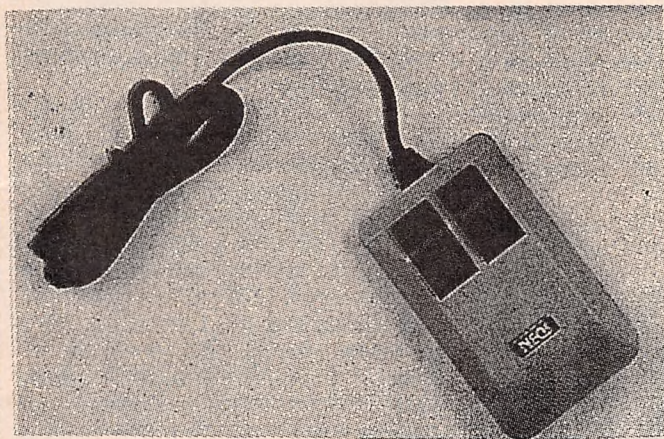
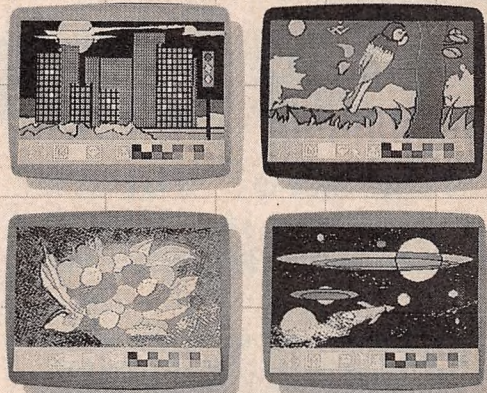
appeal to anyone who has an interest as yet unsatisfied in developing the sound capabilities of a 64 — and as everyone knows, they are enormous and just waiting to be exploited. It is not a little toy you can pick up and jump straight into being an expert without even reading the instructions. It is not a shoot 'em up game level piece of goods. VOICEMASTER is a fully usable speech and music processor and for the money it is first class value and it will provide an excellent introduction to the magic world of computer sound and music.

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The Linker and System 7

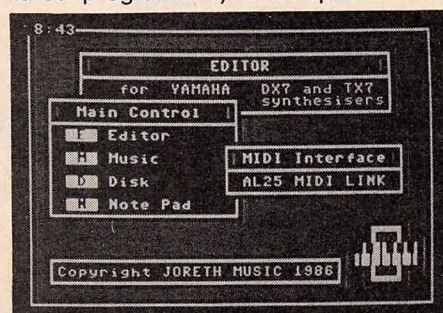
New MIDI Joreth Programs. Ian Waugh plugs 'em in and tries 'em out.

Cast your mind back to May 1985, to that fateful day when you read page 19 of your favourite Commodore magazine (CCI, you wally!) extolling the virtues of Joreth's MCS (Music Composer System).

The MCS was — and still is — a remarkable piece of MIDI software not least of all because it contains real- and step-time sequencing in one package. Both methods have their advantages but many musicians have a penchant for one or the other. Joreth's Linker was designed after receiving feedback from real-time aficionados.

The Linker is a stand-alone package which effectively replaces the real-time part of the MCS. Its task is to link sections of music together; a task it takes very seriously, too, as it can store up to 8 tracks of sequences each containing 16 links.

The linking of sequences is not restricted to sections of music; indeed you can dive down into MIDI and link a sequence of bytes. There is provision for gotos (one in the eye for the structured programmer) and repeats. You



can cut and paste your music with greater precision than was ever before possible.

If you have used the MCS, you need to make a small mental adjustment when using the Linker because you now have not only Tracks, Parts, Tunes and Songs but also Links and, in the Linker, Parts take on a slightly different meaning. It takes a little getting used to but, like all Joreth's software, it is very comprehensive and a little time must be spent to become familiar with it.

To help you on your way, the Linker manual contains a 10-page tutorial which takes you step by step through a typical link process.

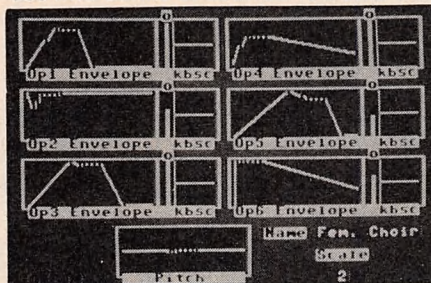
The Linker is ideally suited to producing tight arrangements but I also used it to construct a 'composition' from ran-

dom sections of a few bar's improvisation. Perhaps rather a frivolous use of the program but I'll bet no other sequencing package has been used in this way!

If you prefer real-time sequencing and this degree of control appeals to you then the Linker could be just what you need.

There can be few more disheartening tasks facing a digital synth owner than programming his instrument. All parameters must be adjusted with only a couple of buttons and maybe a slider. That's the problem with all digital synths but Yamaha's DX7 just happens to be one of the more versatile — and that means complicated.

Joreth's System 7 helps you program the synth and it helps organise the voices into banks of sounds. It works with



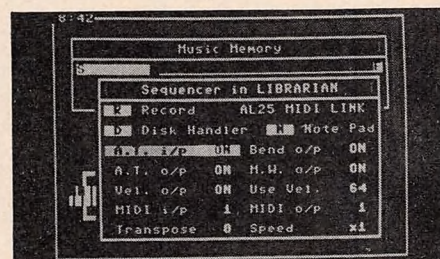
Yamaha's TX7, too, if you happen to be a fortunate owner.

The program has three main sections: the Sequencer, the Editor and the Librarian. In the Sequencer you can record a short piece of music which will play while you are editing voices so you can tell what the sounds will be like 'live'.

The Librarian lets you create, organise and store banks of 32 sounds. This works directly on files created on disc but there is also an internal file within the computer's memory which is used to transfer voices to and from the synth. You can give voices new names and a Note Pad facility lets you jot down details of the files. At first sight, the Librarian appears a little complex but this is a result of its versatility and flexibility — bywords in Joreth software.

The Editor is where all the hard work is done — or rather it tries to take all the hard work out of the job of editing. The screen is divided into two sections: functions and voice parameters and all parameters are displayed numerically on screen.

The Editor has thoughtfully been supplied with lots of ways to make the job easier. You can turn operators on and off and copy one set of operators parameters to another or exchange them. You can get a graphic display of the algorithm (this is all DX talk, by the way, in case you don't have one) and

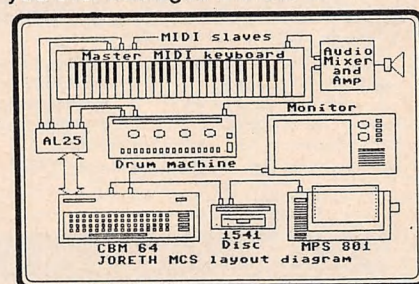


you can call up a graphic display of the operators' envelopes, output, keyboard scaling and pitch.

The disk handling routines are very impressive with lots of helpful messages. A separate card contains a summary of all System 7 operations and the disk itself holds lots of help files. System 7 is quite a complex program but a little time spent with it will be well rewarded. Like the Linker, it too has a Beginner's Guide and, like the Linker, yet more information would still be welcome.

Part of the program leads to a small puzzle and the first three people to solve it will receive a free Linker. Once solved, you end up in a random voice generator. It's not terribly sophisticated, crammed into 1K of code as it is but it's a nice little extra, and I spent hours playing with it. 320 (non-random) voices are also included on the System 7 disc.

With all this going for it, System 7 is a pretty impressive piece of software and I would suggest it is indispensable to the DX7 and TX7 owner. Nicely priced, too. You don't have to be a DX whizz kit to use it and once you do you'll wonder how you ever managed without it.

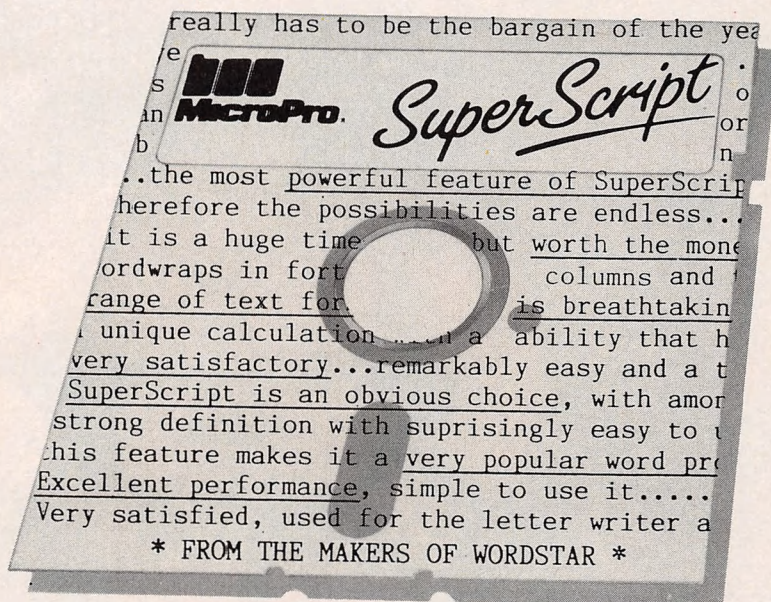


Both System 7 and Linker are compatible with Joreth's excellent AL25 MIDI Interface — if you are particularly interested in synthing equipment, check this out. Joreth programs will also work with cartridge port interfaces such as Siel, Jellinghaus, Microvox, Steinberg and Sequential so you've no excuse for not buying one!

Prices: AL25 £138, System 7 £79.99. AL25 plus System 7 £199.99. Linker £94.90. AL25 and Linker £219.65. All prices include VAT.

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Konami's European Software Manager, Luther de Gale, represents his company the way a Samurai warrior might protect and advance the cause of his feudal Japanese lord — with strength, sharply-honed skill and with total confidence in himself and in Konami's destiny.

"I expect us to be one of the big four. An Ocean, a US Gold..." He says with the certainty of one who has seen at close quarters the capacity for planning, execution and global success of Japanese industry. When he describes the record Konami has achieved in its seventeen years of existence, his confidence seems very likely to be justified.

Konami is, of course, already one of the big four — not of home software but in arcade games, not cassette shoot 'em ups but the real thing; the stand up arcades, the draughty, grubby, swallow-your-pocket-money, crowd-around-to-see who-gets-top-score arcade machine games. Atari, Sega, Nintendo and Konami are names that have become legend. For Konami to move to supplying home computers with versions of its worldwide arcade success would seem an obvious step but, as Luther de Gale points out, it did not happen easily or quickly. Konami was started by four Japanese men — the KO comes from Kozuki the name of the original founder. It began as an organization to service Japanese arcade machines. Not a very comfortable choice, for the whole field of arcades was then influenced if not dominated by the Yakuta, Japanese Mafia style gangsters, who shared control of the post WWII entertainment field with Americans. Konami moved from repairing arcade machines to creating the PCB's (Printed Circuit Boards) that went into them. Not the actual manufacture of PCB's but the 'intellectual property', the creation of the game to which these high-powered often 32 bit computer boards are dedicated. Futurists have predicted that we are moving into 'a knowledge based society' where you will sell technological expertise more valuably than manufactured products. Konami are a good example of this. They develop an arcade game, sub-contract the production for the PCB, then distribute them round the

world to be fitted into the almost universally uniform stand up arcade machines and sit back to watch the yen, dollars, pounds, marks, francs etc roll in.

Well, not exactly sit back. For that is where Konami UK and Luther de Gale come in. After Konami's early success with games like Ping Pong and Track 'n Field sports simulations, they decided to join the major Japanese electronics companies move into the home computer business based on a single standard — MSX. MSX... ah yes, not one of the great Japanese success stories so far. With a mere 2% to 3% of the software market today, it tails far behind Commodore and Spectrum. However, Konami, unlike the Sanyos, Sharps and Toshiba's has made money out of MSX. It was not fighting for a share of the small, highly competitive hardware market. It sold the relatively expensive MSX cartridges — many to those very same Sanyos, Sharps and Toshiba's to bundle with the machines. Konami also supply cartridges for the Nintendo 'Family Computer' — really a games console. 'A major portion of our revenue in Japan' de Gale comments.

Influential Role

Luther de Gale took an influential role in the next step for Konami which was the result of the question 'If we are in the computer software business, why are we ignoring 97% of that business?' — the cassette and disk based home computer market. As they had no shortage of games already developed — after all that was Konami's business, they decided they would licence these games to already established games software houses. They picked Ocean. De Gale states 'Ocean have done a good job for us. They have been 'the Konami of Europe'. Ocean have had a number of Konami successes including CCI's 1986 Oskar winner the 'Konami Coin-Op Hits' Compilation. Now Konami is moving to the next stage of its operation. The publishing and marketing of its own games. It has set up a company to develop products using the Konami label run by Luther de Gale from West London.

As de Gale points out it has great advantages. "I have secured source of product. Konami has in Japan 140 full



MARKET LEADER-KONAMI CONT.

time programmers — specialists all of them. Some do nothing but sound..." This is probably one of the largest game development teams in the world, if not the largest. It makes UK companies even like Ocean look very small.

"When we launch a game it gets market awareness — worldwide". They deal in large figures. "We sold a million Nintendo last Christmas — 50,000 in the US alone." That means that a Konami game that is already a hit in the arcades will have had huge publicity. "Originally there was a fear from arcade owners of affecting their trade but arcade games last three months and it would take me at least three months to develop the home computer version..."

Jailbreak

De Gale's team in the UK is now about 15 strong to take care of current projects but will probably have to grow. The first release under his control has been Jailbreak which has topped the Micro Dealer Chart. A typical arcade style shoot 'em up with not much story but fast exciting action, it is clearly a game that will rate high for the home computer arcade fan. Next on the list is Nemesis, just being released. De Gale sees his job to develop a top team of young, creative programmers. Simon Pick, the programmer of Nemesis is typical of the breed. 20 years of age, a student in Computer Science and Artificial Intelligence at Sussex University he already has games successes behind him, including the well regarded 'Mad Nurse' which came out on an economy label "That took me two weeks" he told CCI, "I've spent more than seven months on Nemesis, getting it right". Nemesis, from the first look CCI got of it, seems superior even to Jailbreak, the kind of game that would get stand up arcade fans pouring their money into the machines. General opinions are that it looks like Konami has got a hit with Nemesis. But de Gale's plans for Konami are based on more than a few isolated releases. He intends to build the Konami name into a major force with backing from good customer relations from such things as a Konami Club, a newsletter, a telephone service for queries etc. He wants to show it is 'a company that cares'.

If that has the familiar Japanese corporate togetherness ring about it, it may be thought strange coming from a Londoner of West India origin. But Luther de Gale must now include some Japanese characteristics in his British personality — private as well as professional. He speaks Japanese, learn-

ed both at London University (where usefully for someone involved in a big company he also studied politics) and in Osaka in Japan. He is also the UK's leading expert on Nippon Kempo (Japanese Boxing). When he went to Japan, it was to study Karate but found a less common form of martial art. Nippon Kempo is a sport that requires the protection of gloves, solid black leather breastplate and a helmet which looks fearsomely like those used in American football.

De Gale brought back his enthusiasm for Nippon Kempo and there are now more than 300 people of the association who follow the sport in the UK. "It includes all styles, kicking, throwing and punching" says de Gale. He does not look the kind of man to confront without that breastplate and helmet well in place.

He admits now he has little time to play computer games. He leaves that to others in his organization. He sees Konami producing its games across all the formats even the less general like the C16. Stretching still further into the future "The ideal is to develop Konami UK as a software company in its own right but also including third party software... We are going to move away from the days when every software developer could be a software marketing company."

He comments, 'In the West, individualistic and creative talent likes to be independent

but he sees that quality being successfully combined with Konami's corporate strength. His view of the main home computers? "Our established medium, the 64 and the Spectrum, will be around for a long time yet — at least the next two or three years. For Yuppies, there may be a PC market but I'd be very wary of it... Yuppies like to show off at dinner parties, not to be confined in front of a PC... I still see the market as the 'annoying little boys' who phone here, who touch everything at exhibitions..." And the future? "What I set out to do was to create Konami as a software house. I had a lot of patience..." He gives the sense that no less strength and patience will be used in building it up to be 'one of the big four'.

Strength, aggression, patience... Konami reflects the longer term view of Japan of how to achieve and retain success. Luther de Gale has clearly learned and absorbed those formidable qualities. As a combination, they will be difficult to defeat.



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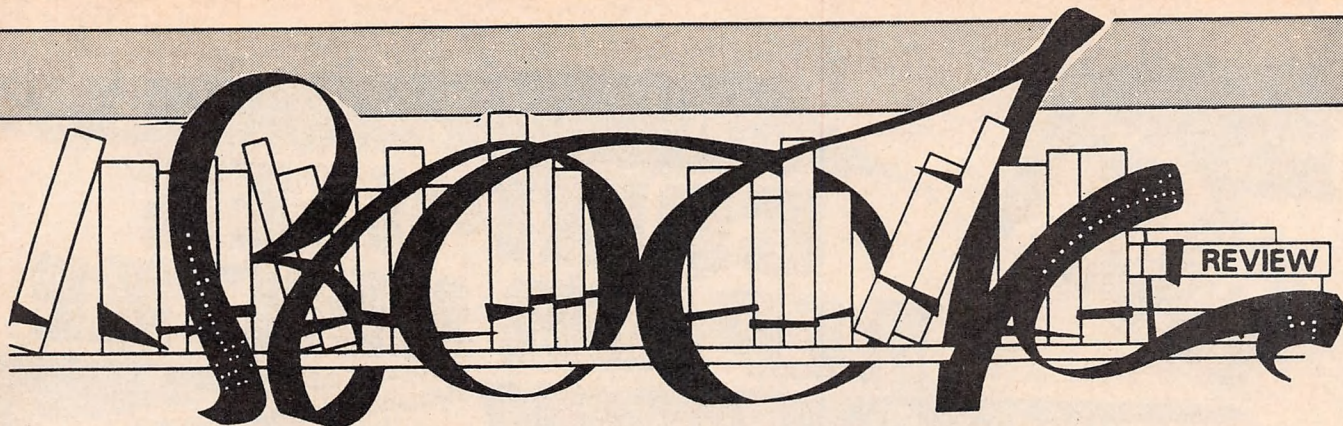
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**'The Cult Of Information
— The Folklore Of Com-
puters & The True Art Of
Thinking' by Theodore
Roszak — Lutterworth
Press — £12.95**

We are being manipulated. By whom? By the information communicators, says Theodore Roszak. In his book 'The Cult of Information', (Lutterworth Press. £12.95), he catalogues chapter and verse of his theory that the computer scientists are slowly and invidiously contriving to make us believe that the computer is an all-powerful god. If they have their way, says Professor Roszak, mankind will eventually defer to the computer in all things and will forget how to plan, dream or even think for itself.

The burden of his argument is that there is a 'vital distinction between what machines do when they process information and what minds do when they think'. That distinction, he says, must be kept in view by teachers and pupils alike, for it must be remembered always that the computer is our servant, it must never be allowed to become our master.

We have had the Ages of Faith, Reason and Delivery, now we are living in the Age of Information and what can communicate information better than a computer? You sit in front of it, press a few buttons, and lo! you can speak to someone in an office halfway across the world. But you can do that just as well on the telephone, argues Prof. Roszak. What he seems to forget is that, at the same time as speaking with someone thousands of miles away, facts and figures can be displayed on the small screen and, very often, showing can be far more memorable than just telling.

Your children can play video games which stretch their imagination, but board games can do that just as well, he adds. And as for the graphics... (and why paint pictures with graphics, complains the author, when a paint brush can do it so much better!), he finds these are 'aesthetically degraded, even ugly... an eyesore'. I suppose beauty IS in the eye of the beholder but it is precisely these pictorial animations — imperfect though they yet may be —

that make computer games so attractive to the young, and not-so-young, alike. Even 'Trivial Pursuit' — one of the most successful board games ever — has been produced as a computer game and, in that form, is perhaps even more addictive.

As befits a Professor of History and Chairman of General Studies at California State University, Theodore Roszak propounds his arguments logically and with a wealth of facts and figures. For example, he has discovered that 98% of all British schools are microcomputerized, that by the mid-1990's it is estimated that the ratio of pupil to computer in schools in the U.S.A. will be one-for-one and that an astounding \$40 billion dollars was spent on electronics by the Pentagon in 1985. He is naturally worried that the surfeit of computer software and the so-called 'information' it churns out will mean that mankind will stop thinking for itself.

**The Micro-Chip, The
Story Of A Revolution &
The Men Who Made It —
T.R. Reid — Pan Books
—£3.95**

Have you ever wondered why fixing computer problems is called 'debugging'?

In 1944, the University of Pennsylvania had one of the first important digital computers, called ENIAC, whose 'tubes' (valves) had an unfortunate tendency to 'blow' at the most inopportune moments, such as when the U.S. Army was trying to compute artillery trajectories. The cause of the trouble, very often, was moths who were attracted to the soft lights of the tubes. The 'bugs' flew into ENIAC's innards and short circuit the works. Hence, fixing it was called 'debugging'.

This little gem of information, plus many others on the subject of computers and their components, comes from this down-to-earth exposition of the invention of the silicon chip.

Not one but two men were responsible for the micro-chip. Jack St. Clair Kilby, an electronics engineer, worked for

That all we need, (or think we need), in the way of knowledge will be programmed and available on a screen.

Erudite and informed as Professor Roszak is, I feel that he is underestimating his fellow man (or woman). The brain which can invent the computer will always be able to control it. There will, inevitably, be some who will fall foul of the 'information cult' and believe anything they see on the computer screen, (just as there are some people who believe that soap-opera characters really exist and are not just actors playing a role) but, conversely, there will also inevitably always be the maverick, the loner, who will look at that information and say 'Why?'

Therein, I am sure, will lie our salvation.

D.M.

**Lutterworth Press, 7 All Saints' Passage,
Cambridge CB2 3LS.**

Texas Instruments and, strangely for one who has pioneered the most modern of technologies, he won't hear a digital watch and doesn't use a computer because he 'doesn't know how'. Robert Noyce, a theoretical physicist, was the other. His colleagues call him 'the Mayor of Silicon Valley'. He is also now reputed to be worth upwards of \$100 million.

But the book doesn't only tell the stories of these two men, it spans a century and a half of scientific inventions, showing how other discoveries led to the creation of the 'chip that changed the world'.

Reid gives background histories of the men who made it all possible — from Thomas Edison to Kilby and Noyce — fascinating little stories such as why the 'papparazzi's' favourite phenomenon is something called 'static cling' or why the inventor of the solid-state transistor particularly hates rock and roll.

If you'd just like to expand your knowledge of the silicon chip, its origins and its future, without being buried or bored by a mass of scientific jargon, then this is the book for you.

D.M.

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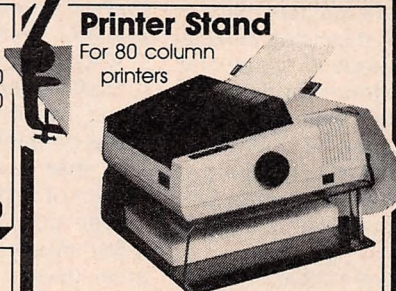
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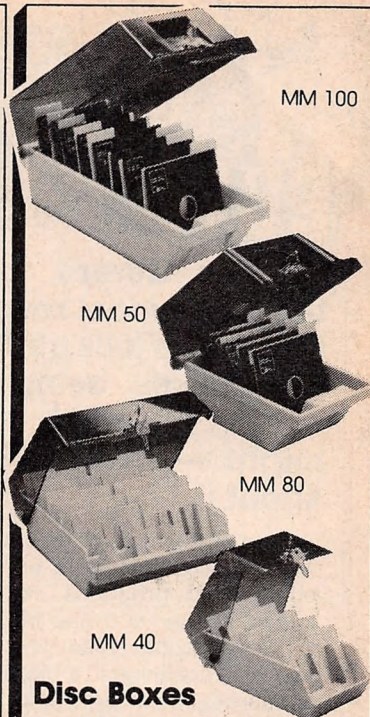
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Commodore 64 Interrupts

Peter Gerard, one of the U.K.'s most respected 64 experts tells us that the 64 dislikes being interrupted as much as you might — and what to do about it.

One of the most often used features of the Commodore 64, at least in commercial programs, is something known as the Hardware Interrupt Vector. This is a convenient way of allowing two or more things to happen at what appears to be the same time. The 64 isn't a multi-tasking machine, unlike the Amiga, and so this is only an illusion, but by careful application and the speed of machine code this illusion will be all but transparent to the user. All very well, but what exactly is the Hardware Interrupt Vector (HIV from now on), and how do you, the poor person at the other end of the keyboard, use it in your own programs?

According to the concise Oxford Dictionary, a vector is a quantity determining the position of one point in space relative to another. Put more simply, and in Commodore 64 terms, a vector is some region of the 64 that tells it where something else is going on. Interrupts? Well, you know as well as I do what an interruption is, and indiscriminate interrupting annoys Commodore 64s just as much as it annoys humans, which means that we do have to tread carefully when invoking this feature. Hardware, of course, is the 64 itself. Putting them all together means that in some memory locations within the 64 there is a vector which points to some other memory locations which continually interrupt the computer and, in the case of the HIV, continually update such things as internal clocks, for example.

Now then, if we were to alter this vector we could set up our own program which would interrupt the 64 before it was intended to be interrupted. Provided that we then sent control off to the proper interrupts, all should be well and good. Let's see.

Vectors

On the Commodore 64 the HIV occupies two locations in memory. That's all it needs to occupy, since the 64 can only address 64,000 (all right, 65,536) bytes of memory, and any two consecutive eight-bit hexadecimal numbers can quite easily cope with that. Pardon? Oh, that's another article. Talk to the editor nicely.

The two locations in question are 788 and 789, and if we PEEK them with the standard PRINT PEEK(788) and PRINT

PEEK(789) commands we will find that on power-up they contain the values 49 and 234. A quick conversion to hexadecimal turns that into the numbers 31 and E4 respectively, and in the time honoured tradition of the 64 we must turn those numbers around in order to get the address of a location in memory. Doing that gives us of course the number EA31, and a glance at a memory map for the 64 will tell you that starting at location \$EA31 there is indeed something called the Hardware Interrupt. The vector has done its job, and every sixtieth of a second control of the 64 is diverted from whatever it happens to be doing at the time to that memory location, before returning and getting on with the job in hand.

Now, you may have noticed that the two locations 788 and 789 are in RAM, not ROM, and so to alter them all we need to do is use the POKE command. Don't do it yet! We haven't yet got a program sitting anywhere in the machine that will allow us to interrupt the 64 without causing complete and utter chaos, so, consider the following program:

```
10 FOR I=49152 TO 49283:READ A:POKE I,A:B=B+A:NEXT
15 IF B(12187) THEN PRINT "DATA ERROR":STOP
16 POKE 788,0:POKE 789,192:END
20 DATA 165,197,201,4,240,47,201,5,240,25,201,6,240
30 DATA 3,76,49,234,98,192,234,234,234,234,234
40 DATA 174,33,208,232,142,33,208,76,49,234,32,98
50 DATA 192,234,234,234,234,234,174,32,208,142,32
60 DATA 208,76,49,234,76,113,192,234,157,0,216,232
70 DATA 224,255,208,248,162,0,157,255,216,232,224,255
80 DATA 208,248,162,0,157,254,217,232,224,255,208,248
90 DATA 162,0,157,253,218,232,224,252,208,248,76,49
100 DATA 234,162,0,160,0,200,192,255,208,251,232,224
110 DATA 60,208,244,96,174,132,192,232,142,132,192,138
120 DATA 141,134,2,32,98,192,162,0,76,56,192
```

Type it in and PLEASE save it (tape or disk, it doesn't matter) before running it. If you find that the program halts with a "DATA ERROR" message in line 15, then check every data line very carefully: there is an error somewhere. However, if all is well then line 16 will be invoked and the HIV has now been altered.

If we look at line 16, we'll see that the values 0 and 192 have been POKEd into locations 788 and 789 respectively. Converting those numbers to hexadecimal gives us 0 and C0, and turning them around as before gives us the memory location \$C000: this is where the vector is now pointing at, and every sixtieth of a second control of the 64 will now go to that location BEFORE going

to the one mentioned earlier, namely \$EA31. It does get there in the end, it has to, but it performs our own routine before doing so.

How did we decide on location \$C000? Well, that is the start of a block of 4K's worth of spare memory in the 64, and in decimal terms starts at location 49152: hence the loop in line 10. This means that we don't eat into the 38,911 bytes available from BASIC.

And what, precisely, does the program do? Not very much really, but you could use it in a text-only adventure game, perhaps. I've written games before now that have been criticised for the choice of text, border and background screen colours, and even the mighty Infocom are less than superb in that area, using the power-on colours for many of their earlier games. So, providing that nothing else in the program uses interrupts, or ends up at location \$C000 onwards, then this program will keep the critics happy. Pressing 'F1' changes the colour of all the text on the screen, 'F3' changes the border colour, and 'F5' changes the background screen colour. If you're a machine code programmer you'll be able to figure out how it all works, and if you're not it would take too long to go through: suffice it to say that it performs the task it set out to perform.

The rate of change (which you'll note if you keep your finger on the key rather than just tapping them) is determined by the value in location 49261, which currently contains a 60. You can alter that by POKE 49261,1 (or whatever: use any number from 0 to 255) to see what difference it makes.

Conclusion

Finally, to prove that the 64 still functions as normal (well, nearly) I ran a simple program and timed the difference in execution time. The 64 is running approximately 1.47% slower with the HIV altered than it is with the HIV pointing to where it should be pointing. And if I could function at only 1.47% slower than normal every time the telephone rang, I'd be a happy man.

To conclude, the use of the HIV is nothing mysterious or alarming, and is very easy to incorporate in your own programs, provided that you follow three golden rules:

- 1) Make sure you alter the HIV correctly.
- 2) Make sure your own program works!
- 3) Make sure you get to location \$EA31 in the end.

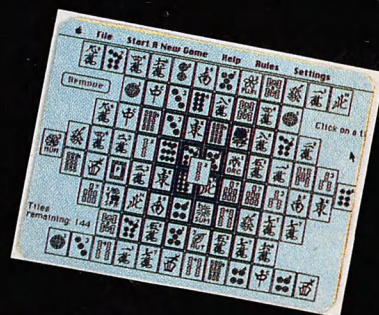
P.G.

C64

MEGA

SHANGHAI

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Activision

In these days of the mass-market rip-off, support by huge advertising, misrepresentative packaging, and not a small amount of muscle in the sales and distribution dept, it is astonishing and heartening to see one label still committed to originality. That label is Activision. Like them or not, it was clear that 'Alter Ego', 'Little Computer People' and 'Hacker' (I & II) all demonstrated an interest in game-design and entertainment value that far exceeded the commercial interests which normally control the games' world. Thus, while most UK labels are gambling how close they

can get to 'Nemesis' in their next release without being sued, Activision hit us with another intriguing and sophisticated game I can recommend unreservedly.

Shanghai is a version of Mah Jongg, a Chinese gambling obsession that pretends to be a board-game. The real-thing is a noisy, complex and expensive pastime that keeps half the Oriental population of London up into the small hours, usually at the expense of their Western neighbours. The computer version, unfortunately, is a good deal simpler. It is a pity like so much of their production, unlikely to make it into the list of top chart sellers.

144 tiles (a bit like Dominos) are arranged in a random pyramid shape (viewed from above and up

to 5 tiles deep in the centre). You remove tiles by sliding them left or right, so if the stack on either side is the same height or higher, the tile is declared 'NOT FREE'. There are several suits, some numbered like playing cards, others bearing unique symbols that fall into character groups that are almost impossible to memorise and pretty hard to make out on screen. The base object is to clear all the tiles away, two at a time. You do this a bit like playing 'snap'. Simply put the cursor on one tile, and then on the one you think it matches. At this time the tiles will either be removed or you will be informed that they were 'NOT FREE'. If you get stuck there is a 'reveal' icon which will almost certainly show you some pairs you may have missed.

There are several variations to the game, which can either be played as Solitaire or against friends in a Tournament — you can even put a time limit on your moves. The computer never acts as a player, only as a Judge, and games can be drawn-out affair that may or may not be to your liking.

I found Shanghai about as absorbing as Patience and thoroughly playable. The Problem is that I only play Patience when I'm suicidally bored or too ill to watch the TV, and I fear Shanghai suffers from the same malady. It's simply too 'personal' to use the qualities (ie; sound and vision) that you normally switch on a computer to find. Alas I can't really see it selling in large quantities, but my rating reflects the encouragement Activision should receive in their pursuit of new angles. If I really thought my '64' was doomed to endless versions of Commando, I'd sell it now — Activision is one of the few reason I don't.

T.M.



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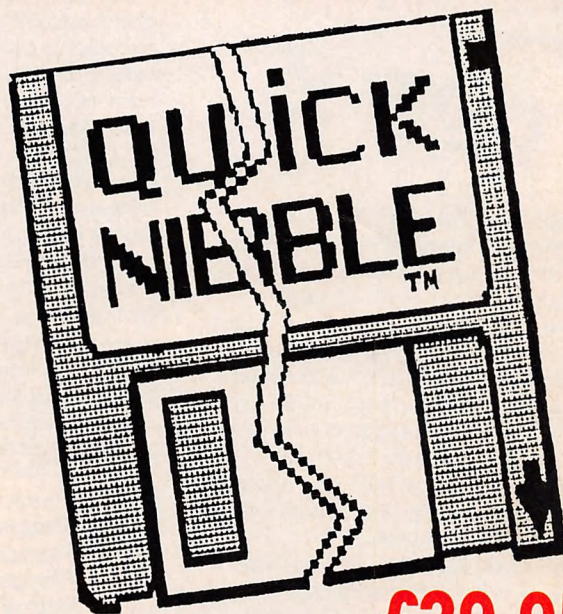
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Treasure Hunt — Macsen

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The object of *Treasure Hunt* is to solve various geographical quests, following cryptic clues that take you to various towns and places in Britain. You may fly or walk between these places and are conveniently provided with a helicopter that has apparently limitless fuel, and seems to fly at roughly the speed of sound. Which towns you must visit are hidden in the clues and you unravel them using a comprehensive booklet of geographical notes.

On screen, *Treasure Hunt* is very simple. A map screen fills up with locations as you visit them (often overwriting itself quite badly), and a helicopter screen shows (text only) where you are, what the current clue is, and how long you have left to solve it. You are asked for simple commands (usually the name of the place you wish to visit, or the direction you want to walk in) and it obeys with an 'OK' message or a 'well done' if you are on the right track. The interpreter seems to have minor bugs, telling you some locations don't exist when they do, and Annika Rice, who used to run around a lot like an idiot, shouting a lot and showing her bum at the camera in the original T.V. show would have been delighted with a



helicopter that miraculously appeared even though you had strayed miles away from it, whenever you said 'Take Off'.

All the real action involves searching your notes for information that will suggest your next location. Once you have this, you simply tell the computer and you are taken there. In actual fact this was an intriguing little process, and if the game had been a little friendlier I might have played a little longer. Unfortunately as you can't abort a quest you're stuck for quite a while each time you run out of ideas, and the stupid little tune that can't be turned off drove me quite barmy in the meantime!

It's clear that a lot of work has gone into this. The notes are excellent, and there are several quests on the tape. It would seem however, that Macsen's good intentions have come to very little. If TH had been an Adventure, with a decent interpreter, or a Simulator with even passable graphics and the opportunity to map and navigate your way around the problems, then it might have been a very good game indeed. Unless Macsen sign a deal with Denton's or someone with equal games-style expertise I can see little hope for Eastenders, or any other of their future TV licenses really becoming chart toppers.

TM

Price: £9.95
Graphics ★
Sound ★
Playability ★★★
Rating Iffy



Aliens — Electric Dreams

IFFY

I've never really had a lot of time for *Electric Dreams*. Lacking the sophistication and sheer excellence of its parent. Activision, E.D. have tried to balance this with the entrepreneurial flair of Rod Cousens — old Mr. Quicksilver himself. Big licenses (Back to the Future), big causes (Soft Aid), and big gambles (remember the Dandy/Gauntlet fiasco of last year?) have all failed to conceal the dearth of sound games design at this prolific label. Rod, however, just keeps bouncing back — this time with one of the biggest licenses of the year. Could a computer game actually capture the high-speed thrills of 'Aliens'?

Well, first let's simplify the plot a bit. In this game you know where the Queen, (she's marked on the map), your various team members move separately but without any real sense of each others precense (you can't see another crew member if you're occupying the same room). Newt, the cutsy kid

who is actually one of the Movie's main pre-occupations, is reduced to a random character who gives you a few points and promptly disappears, and the characterisation of your Heroes, which is so important to how they behave in the film, is totally lacking from all but the inlay. What is left is basically 'Shadowfire' with a few pseudo-digitised pictures and a well animated Alien. Because you can't see a bird's eye perspective of where your crew are in relation to their immediate enemies, the strategic side of this game soon becomes confusing. After wondering around blasting 'Bio-mechanical growth' (looks a bit like Alien flock-wallpaper) and trying to get my bearings, I surrendered to my inevitable defeat.

All the screens are basically the same, all the Alien-sequences are the same, all the crew members are the same. In short *Aliens* simply lacks depth and, despite the repeated reference to Mark Eyles, any real sense for game design. At first you may find the graphical representation of an Alien wandering around, turning towards you, and homing in for the kill quite effective but the novelty soon pales. *Aliens* has sacrificed most of its potential for the sake of gimmicks overused in previous games. Much more should have been made of the Alien's strategy or indeed the machinations of your own crew. As it is, *Aliens* lacks even the unity of perspective that made Argus's original 'Alien' game (now excellent value at £2.99) such an enjoyable play. I confess to being disappointed.

T.M.

Price: £9.95
Graphics: ★★★
Sound: ★★★
Playability: ★★★
Rating: IFFY

Scooby Doo — Elite

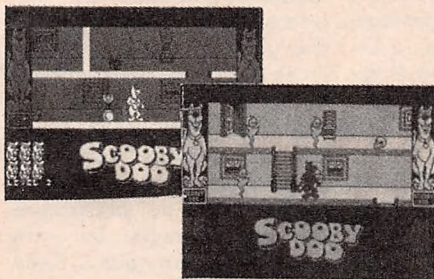
CRISP

With *Elite* you can become anything you desire. You've been a boxer, a commando and now how about having a bash at being a dog? *Scooby Doo* to be exact.

You've just arrived at an old ruined castle and as you leave the mystery machine your friends, Velma, Shaggy, Daphne and Fred are suddenly captured by evil

forces (ho hum!) apparently there is a group of mad scientists about to perform a few experiments on them. Your job is to find and rescue your friends. This is made just a touch more difficult by the presence of a ghost and its henchmen who are out to make life as difficult as they can for you. You view the castle side on and the ghost and other things just appear out of the walls. Not very pleasant, at all! If you come into contact with them, then you're a gonner, you can punch to get rid of them, but they usually just appear right on top of you. It gets very annoying. You start with 6 lives but you get an extra one for eating a Scooby Snax, of which there are a few left about just for you to find.

Although Scooby Doo is

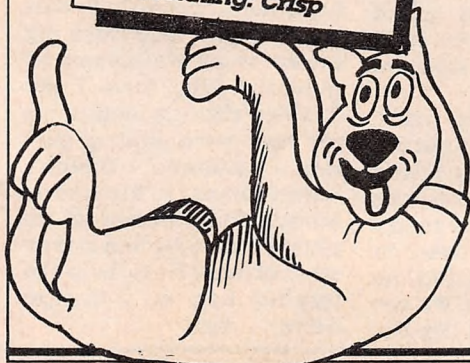


sometimes very annoying I should think its lasting appeal would be quite good because it is a game in which you want to get a bit further and it does make you think 'Oh just one more game... well, just one more... which I suppose is what the word addictive means. The graphics are very sharp and well designed, especially those of Scooby's mates. The sound at the title screen is fantastic. It's a super rendition of the cartoon theme tune but during the game is limited to mainly spot effects.

Overall an interesting game from Elite that's worth a look especially if you're a Scooby fan. Now excuse me while I go for my Scooby Snax! And just one more try at that ghost...

J.A.

Price: £9.95
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: Crisp



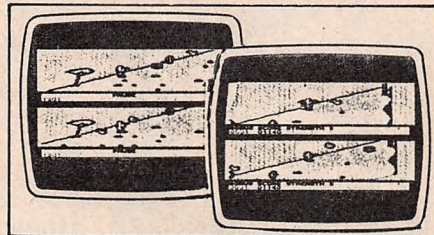
Twinky Goes Hiking not by Firebird DODGY

Between all the bad publicity, the resignations and the hype, Firebird have been slowly getting their act together this summer. On the full price side there was Druid and Sentinel, and for £1.99 there was Warhawk, Ollie and Lisa and Thrust. To misquote Jimmy Greaves, however, 'Software's a funny old game' and no sooner had Firebird started boasting how they'd stolen a march on Mastertronic than Code Masters stole a march on them. Alas it will take better games than this to turn it around again.

Twinky is a kind of horizontal platform-game. There seems only one direction of movement (left to right) and your cute little character runs and jumps against the clock to finish a number of scrolling courses before the time runs out. There is also a second screen where another Twinky (his twin-brother Reg, I'm told) tries to complete the same race in a better time. Split screens have been around now for as long as the old Decathlon games, but only some games and some companies use them properly. This, to my knowledge, is the first budget game to use this format and, frankly, it shouldn't have bothered. The only way to get good two-player action is to have them both present on the same screen (Ikari warriors, Nemesis etc) or have the two screens in genuine interaction (Spy versus Spy, Pitstop II etc). Twinky

does neither, and there is little satisfaction in seeing Reg race to victory time after time without ever really racing against him.

But this is a colourful little game and not bad value. Your man can only really run or jump and you will soon find this is a pretty monotonous process, despite the irritating music. Against him are boulders, crevices, and a variety of worm-like sprites who slither towards him making certain jumps impossible. When you fall, Twinky



seems to dive headlong into the ground (poor animation, here) losing a few seconds before he reappears. Too many of these in one-player mode will almost certainly lose you the game, and I can't say I was altogether disappointed.

I simply can't enthuse about Twinky. Firebird seem to love these unplayable 'cute' games (Spikey Harold, Gerry the Germ goes Body Popping, etc) and it's perhaps one of the reasons they took so long to catch up with Mastertronic. I hope they'll return to form soon.

T.M.

Price: £1.99
Graphics: ★★★
Sound: ★★
Playability: ★★
Rating: Dodgy

C16

Footballer of the Year
— Gremlin

IFFY

Now don't get excited. Footballer of the Year on the C16 and Footballer of the Year on the 64 are two completely different things. The latter has graphics, icons, a save option and four divisions. The former has text, no save game option, and three divisions. There is a Plus/4 version on the same tape and I don't know if that's any better so all you Plus/4 owners ask for a look at the game before you buy it.

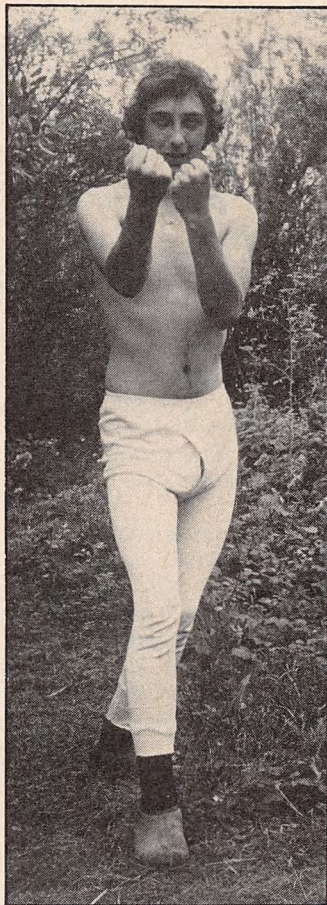


Now on to the review. You start as a 17 year old footballer and you can choose from 3 divisions to start in. Gremlin advise you to start in the third division so you can develop you skill but I found even there, I

Is it a bird? Is it a plane? No, it's SUPER FELIX! He knows who

A Load of Ball-bearings!

One of my dumbest female pussyfriends sent me this utterly charmless note. As there must be one or two charmless readers out there (anyone who doesn't like me plus Ms Eastbourne of Nicolson) I thought they'd like to read it.



"Hi there Dahrlings! This photo of a well known games programmer was passed to me (for an undisclosed sum) and I just knew you'd love a peek! Computer programmers can be an unusual breed, but this little snappette proves that games' programmers top the league in strange behaviour."

As it happens, the subject of this tasteful composition is Mr Steve Lee who has a string of excellent games to his credit. He's had games published by Quicksilver and Mastertronic and four hits to date on the Virgin Games label. Falcon Patrol and Falcon Patrol II on the CBM 64 have a cult following years after their release

with hi-score records (held in the Virgin safe) still being broken regularly. Shogun, also on the 64, was his most outstanding technical achievement and is one of the most original action/strategy games around. And to think, all programmed by those strong hands!

Posing as a Thermal Underwear Telesales Person, I managed to gain Mr Lee's confidence in order to find out what he's up to at the moment. As well as selling him three pairs of Megathermalactics (in some intriguing colours — you'll be interested to know girls) I found out his current game is Erebus on CBM 64 (yes, he just loves that machine). Steve's games are technically brilliant, his scrolling makes the TV screen look like it's on ball bearings. In his action games he's the ultimate blast 'em devotee and spends a lot of time perfecting gameplay, with enthusiastic feedback from the other Gang of Fivers. Erebus has picked up some very good reviews, but I don't need to tell you that, do I?

I did come clean and ask Steve how the photo came about. After the initial period of stunned silence he explained how he'd been enjoying himself one winter on a camping and fishing holiday (he's so butch I could just swoon) when a friend read him out his first ever bad review.

"I found myself in that pose purely by reflex", he told me.

*Love
TIDDLES*



(Footnote to any ladies reading, Steve's phone number may be negotiable. Try me on 01 727 8070.)"

"Scrolling that makes the TV screen look like it's on ball-bearings? 'I found myself in that pose purely by reflex'? Why not program your computer to ring the number a million times a day — reversing the charges of course!

The Duchess and I

As the new Duke of York has just been admitted to the House of Lords, it is time to clear up certain vicious rumours started by envious other Commodore Mags. I wish to deny absolutely I was offered the title 'Duke of York' if I would marry a certain Sarah-Jane Ferguson. There was no question that I wanted to have such arrangements made for me, even if the Queen begged me personally. I did not under any circumstances wish to be accused of marching the 10,000 strong CCI staff up a hill and then down again as the present Mr Fergusson seems to be rumoured to wish to happen. As his brother commented to me 'You can tell that to the Marines!'

My involvement with Miss Fergaston was entirely innocent. We did no more than share a single water ski, equipped, it is true with

bar, bunk and C64 for a period of only 14 days (and 15 nights) when we were shipwrecked on Lake St Moritz one Christmas. Any bodily contact was necessitated by the need to protect Miss Ferguson from sunstroke. Nor is there any truth that 'Sally-Wally', as I came to call her, offered to jilt the now Duke of York and give the whole thing a miss (no relation) if I could persuade O.S.E. to let her design company have a contract to re-design CCI's game pages.

I have the personal assurances of P.M. Margaret ('Thank you for the millionth 64') Thatcher that any further reference to this distressing 'affair' will bring to the perpetrator an attack of the M15's and either banishment through the looking glass to St Atariland or beheading at the Tower of London, if that place can be privatised quickly enough. So, you have been warned! S. Felix Esquire.

Which Witch is Which?

If you see a haunted look to my whiskers don't be surprised. Super Felix, I admit, is no match for the super, supernatural. My fur rose, when I heard some peculiar whispers from the empty, echoing halls of CCI Tower about ungodly goings on in some of the offices. No, I'm not referring to the invitation from Argus to 'Meet the Witch' — Imelda of TV 'Grange Hill' now a no doubt fantastic computer game. No, it's about lovely Lady Linda of CCI, descendant of 18th century Lord Mayor of London, John Wilkes who was a member of the notorious Hellfire Club that met for orgies and other innocent social activities in caves and cellars in those ancient days.

Well, lovely Linda (she's the one who likes to cut tee shirt wearers heads off) was recently told by a medium that she was a re-incarnated witch who lived in Paris in a previous life. As her ancestor John Wilkes did while in exile. Ho-Ho,

we scorned, we don't believe in that psychic bosh, do we? But Princess Krotoa of Mose flashed her eyes, kissed her fingers and made a strange sign (no, not a V sign!). I felt a nasty shiver run through my paws and tail. It was, our production Princess Sharon Wong-flic told me hiding under the table, the sign against the evil eye! And then I remembered hearing about our 200 kilo Sacred Editor dancing naked round bonfires in woods at midnight with nubile maidens... What's going on here, I wonder.

Now they're all looking at me oddly why? ... What is Lady Linda doing with that broomstick? Why does my basket smell of sulphur and gundog? Why have I got this very strange feeling a if my hair were falling out? Has someone Imelda, Sarah James, Jo Mc Bourne Meads, Clare (never return phone calls) Hirsch cast a spell on me? Help, help I'm turning into a... human being... Yuk!



Little Mo Jeep

It's not true as people have been gossiping that ace reviewer and international socialite Princess Krotoa de Mose has deserted her chief Max the Ad for his jeep driving henchman Major Billy Brown. It is totally untrue that the Sloane Ranger Princess said 'I love the way Billy jerks into four wheel drive'. Believe it or not she actually calls the macho leather-jacketed Billy 'Mummy'! yes, she says its because 'he nags, nags, nags just like mummy and look at his hair, too...'

Major ('Reagan and Thatcher are weak-kneed liberals. Kinnoek? He's paid by Gorbachov personally.') Billy was recently arrested by the police and taken from CCI Tower in handcuffs. They thought he was a right-wing terrorist who was threatening the international political freedom organization 'Amnesty'. It turns out that out on one of his ('A good Commie is a dead Commie, everyone should be forced to read 'The Sun') binges, he'd left his camouflaged jeep in Amnesty's car park. O.S.E. bailed him out muttering about 'hanging being too good for him'. Next week — Princess K's informed views on 'capital punishment' ('Is it something to do with the radio station? No? Oh, *that* capital punishment! Oh well, I don't agree with it. What about Billy? 'Oh there are exceptions...') Ah yes, it's never dullsville here at CCI Tower...

Yo the heave ho!

What is going on? I cannot keep up with all the disasters hitting viciously all my very best friends in the computer world, could they have offended OSE? Could his curse have descended on them for some momentary lack of respect? Sweet Jim Levy of Activision bites the dust, (sob, sob). Ariolasoft's gorgeously bearded Frankie Brunger finds himself out in the cold, (boo, hoo). Peter (Handsome) Holme or Argus (wail!) departs peacefully, Nick Bessey once of UK then international supremo of Commodore disappears in a puff of smoke to say nothing of Neil Stewart of CTW jump-

ing and being pushed simultaneously. Even that nice Nick Alexander is no longer so Virginal leaving his G.M of software role to a Mr Paul Latham who plays with toys and is, I have to admit, totally unknown to everyone in the world. Mr Latham's appointment, according to Virgin "has been made to free Alexander to concentrate on Virgin Games other activities". That sounds like the 'vote of confidence' given to football managers just before they get the boot doesn't it? Another rumour is that Nicky boy has secretly changed his name to Ranulf Twistleton Wykeham Fiennes (I swear that is *exactly* it!) and plans to lead an expedition round

the world in search of the fabled "Golden Fleece" computer game (production cost 50p; Cassette £100.00 Disk £50.00). Guess who will play argonauts to Alexander's Jason... none other than all these famous adventurers, Levy of Activision, Brunger of Ariolasoft, Holme of Argus, Bessey of CBM and Stewart of CTW. You don't believe me? Can't you see them rowing (they were all of Oxbridge, of course)? Can you think of a more enterprising crew for such a task? Aren't they all in the same boat already? Answers on a postcard please to Sir Richard Branson, Minister for Street Cleaning, Power Boats and Leisure Services, c/o 10 Downing St., London W1.

Madison Ave Epics

Although you may not believe it, Solutions, Intermediates and Lesley Headlines are not the only PR companies in the universe. One or two tiny others pick up a few crumbs from their sumptuous table. In their inhibited UK way there are too, certain phases these hype-giants would never dream of using. 'Ring around the Rosie' (What's that? It sounds like an immoral game to me. Don't mention it again! Ed) ... 'Lean and mean' ... 'Dancing in the aisles' ... Oh dear, no ... frightfully not ...

In the US inhibitions are something you get rid of at parties, especially PR ones ... I know this 'cos OSE was contacted the other day by G S Schwartz Inc from Madison Ave, NY. OSE who is terrified of American accents (he runs, hides and takes the 5th Amendment in the cupboard) ordered me to receive their message. It concerned Epyx (you know, US Goldfinger's Summer, Winter, Autumn games Epyx). I kid you not this is what they said practically word for word.

"While other software companies were playing 'Ring Around The Rosie' — and we know who fell down — Gil Freeman at Epyx in Redwood

City, California, insisted that the only people who should be playing games were the consumers that bought Epyx software, not those working in his company.

Freeman turned Epyx into one of the hottest bets in town when he joined as president in 1985. Epyx is making money — a claim few home entertainment companies can make — because Freeman runs a lean and mean operation. He plans to take the venture-funded company public sometime next year.

Since Freeman's joining Epyx, the company has realized record sales and profits, with a 500 percent increase in sales in the past two years. Freeman has a team-oriented approach to management that, coupled with his extensive financial and operational background, has laid the groundwork for many more winning seasons for Epyx.

He's got the Midas touch. Prior to joining Epyx, Freeman was chief financial officer for Sharper Image, a \$100 million mail order and retail store operation. Before that, he was with Pier 39, a \$50 million San Francisco waterfront development at which he eventually became president and chief financial officer. And while people were dancing in the aisles and taking "God knows what," Freeman was keeping the books "straight" at Bill Graham's Fillmore East and West.

I'd like to put you in touch with Gil Freeman to discuss how he has turned Epyx into a company with more than \$20 million in sales and now stands at the helm of the company's growth and expansion as it enters its second profitable year. I'll contact you shortly. Thank you for your time."

Luke Skywalker and Darth Vader starring in Domark's forthcoming computer versions of 'Star Wars'. In 'The Empire Strikes Back' the same actors will be disguised as R2D2 and C3PO.

Now wouldn't you like to write like that, Solutions Inter Headlines? For lessons in this really creative writing contact Jeri Cohen at One Madison Ave, New York, New York ... My Kind of Town (or is that Chicago?). So good they named it twice and the Battery's up and the Bronx is down ... Don't take any wooden nickels, Jeri (M or F?) Have a nice day! And thank you for your time! (Have those terrifyingly enthusiastic Americans gone? Can I come out now? Ed).



...REVIEWS CONTINUED...

was rated as only average after a whole season of hard graft.

At the start of the season you begin play, using expensive things called goal cards to determine whether you score or not. Your goal cards are worth 1, 2 or 3 goals per match and it's up to you when to use them. Using them takes the form of the computer asking you whether you want to kick the ball left or right — it's here that Sod's Law takes over — kick to the right and 9 times out of 10 the goalie saves it. Another expensive goal card down the drain.

If you're feeling particularly lucky you might have a try at the incident cards. These cards are sometimes a godsend giving you the chance of earning lots of money by a quick press of the space bar. You get told things like "The Inland Revenue

have given you a tax rebate — how much is it?" and get a choice of 5%, 1% or 34, when the cursor is over 5% press the space bar and you get a few grand to keep alive for another week. It's not as easy as that though because the cursor moves very fast. Incident cards aren't all good though and sometimes you get your cheque book stolen and worse still injured, the hazards of the game I suppose.

When I first played this game I hated it and was hugely disappointed, but it's grown on me a little, since I had a little talk with O.S.E. (our sacred Editor) and now though still disappointed, like it a little more. Some of you out there will love it, but I'd think twice about getting it.

C.K.

Price: £6.95
Graphics: Na
Sound: Na
Playability: ★★
Rating: Iffy.

Harvey Headbanger Firebird (Silver Range)

DODGY

As some of you may know, I don't always rate Firebird C16 Silver games very highly. That really is a bit of an understatement, I often find their games boring, frustrating and a waste of time. So it will be of no surprise to you when I tell you Harvey Headbanger is no exception.

This is the plot(?). You are Harvey and you scrap with a matey called Hamish Highball for the fun of it, using your large bellies and strong heads. If you bounce into each other you get disorientated and move all over the place for a while.

The object of the game is to encircle your opponent in a ring of the squares while he tries to do the same using red squares. You can also make yourself drinks by encircling a section of red squares — these refresh you and if you're topped up when you bounce into Hamish you'll recover quite quickly.

You can play against either a friend or the computer, I'd advise you to play against a friend as the computer is impossible to beat, even on level one. Maybe I didn't practice enough but I got so frustrated playing it I was beyond caring.

If you have any sense you'll stay well clear of this one. Firebirds C16

motto sometimes seems to be "If it's cheap it doesn't have to be good".

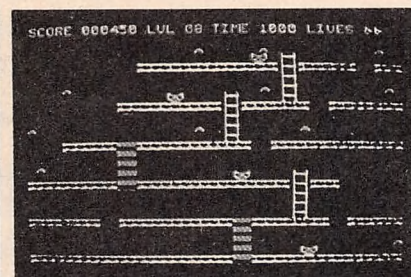
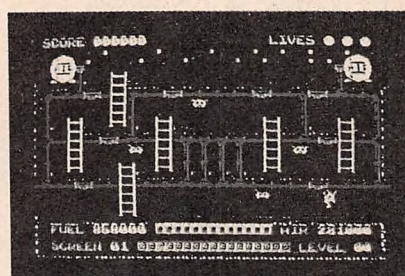
The graphics are good, so is the sound so maybe you'll like it. (Maybe pigs will fly). Sorry again Firebird, you can do better than this!

Price: £1.99
Graphics: ★★★
Sound: ★★★
Playability: ★★
Rating: Dodgy

Astro Plumber — Blue Ribbon (CDS)

NAFF

You are a galactic maintenance man just arrived from Earth and your task is to repair the leaking air pipes in caverns under the moon's surface. While doing this hazardous job you're molested by the obligatory nasties that abound in the caverns. You can't blast them, so instead they give you a jet pack



Joey — Blue Ribbon (CDS)

IFFY

This game reminded me very much of Astro Plumber — lots of platforms, ladders, nasties — you know the type of thing, but, thankfully it's not that bad, though it's not that good either.

You are Joey the kangaroo and you must collect all the boomerangs on the screen within a certain time limit. When you complete the screen within the time limit you get a bonus — the quicker you are the more points you get. On the first couple of levels you only have to dodge squat little monsters but as you progress through the eight screens things start to get more difficult as the monsters speed up and rogue boomerangs try to get you. As if they weren't enough, Aborigine's spears start flying around trying to nail you for the Sunday roast.

The game graphics are very crude, with no animation at all. The sound is also crude and it gets quite irritating at times.

All in all a very average game with quite a few flaws but I suppose for a budget, it is adequate.

C.K.

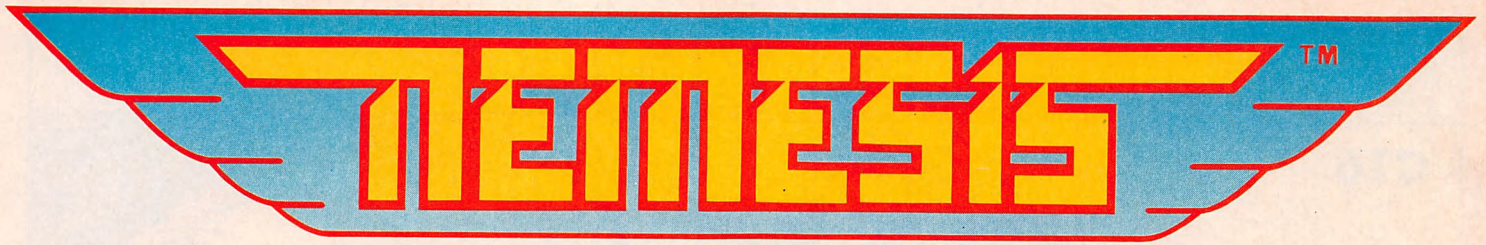
Price: £1.99.
Graphics: ★★★
Sound: ★
Playability: ★★
Rating: Iffy

with which you can fly over them. Or so they say. Frankly I did not have much success with that manoeuvre and when I did it might have been just blind luck.

You will instantly find this game boring and unplayable even at budget price, climbing up and down ladders and getting killed by indestructible nasties isn't my idea of fun and I'm sure you will be of the same opinion if you happen to buy this game.

C.K.

Price: £1.99.
Graphics: ★★
Sound: ★
Playability: ★
Rating: Naff



The Final Challenge



Launching soon on:

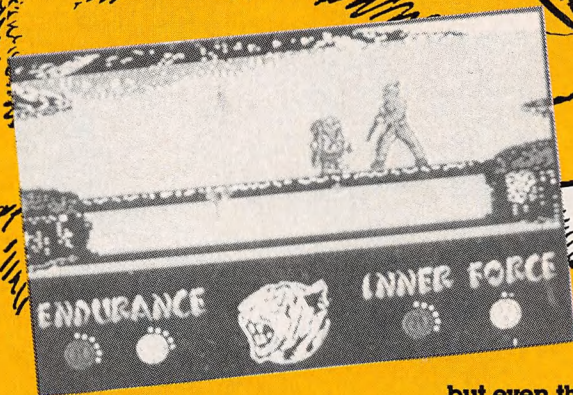
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C16

MEGA



Way of the Tiger Gremlin

You are an acolyte of the Way of the Tiger and to become a true ninja you must face the test of unarmed combat, pole fighting and samurai sword fighting. The journey will be hard and arduous but with courage and strength you might succeed.

In the first section, unarmed combat, you must do battle with a couple of ninjas and a few goblins who brandish evil looking swords.

In pole fighting it's the ninjas again always game for a fight, with dwarves backing them up with hefty maces. You fight over a slippery log and if you happen to put together a sequence of ungainly moves you fall head first into a pod.

Sword fighting is the last of your encounters and you must beat another ninja and a man with boots and head-dress. The booted and head-dressed warrior is armed with a long sword and he leans forward and chops you in the head while you can do nothing about it. I found the best tactics were to hit and run

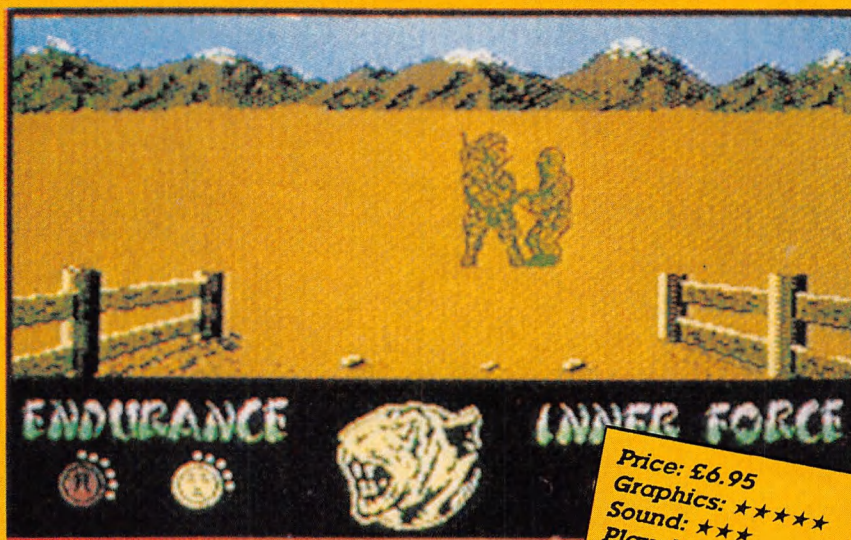
but even then I got beaten often enough.

The game has a large variety of opponents awe-inspiring graphics that scroll at three different speeds — foreground the slowest, clouds the fastest. The big let down of the game is the limited number of moves you can make — severely cutting down the playability. It is a shame because if it had got a couple more moves in it would have

knocked Fist out of the running. Some people may prefer this anyway because of the different opponents so I won't try to make up your minds for you. If you have the cash get both, and if you're a programmer how about a mixture between the two.

A good game whose exciting points outweigh the problem. If this game is anything to go by Future Knight should be truly awesome.

C.K.



Price: £6.95
Graphics: ★★★★★
Sound: ★★★
Playability: ★★★★★
Rating: Mega

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C16

MEGA

Jet-Set Willy 2

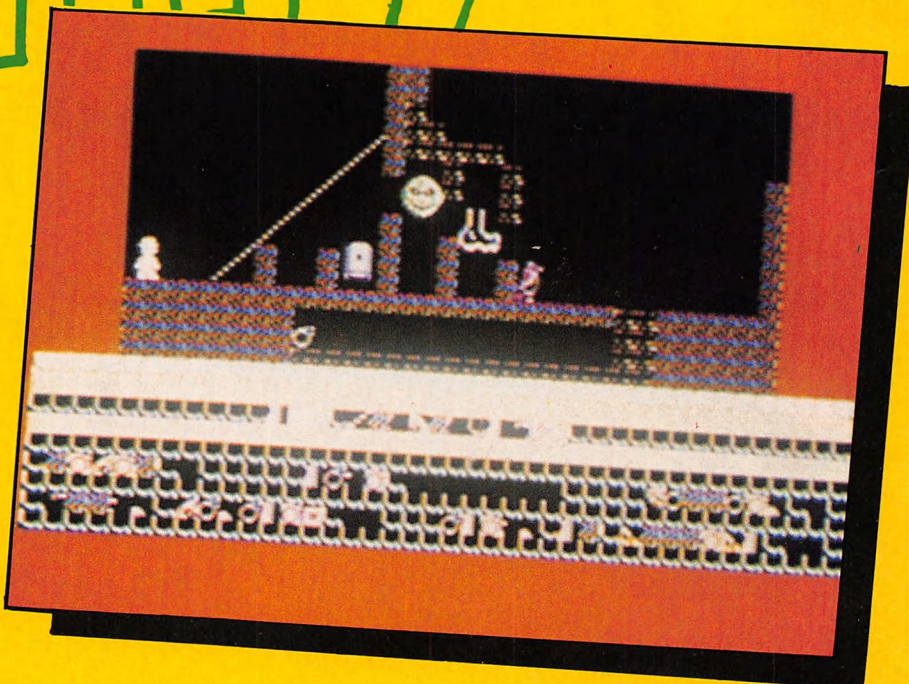
Jet Set Willy 2 by Tynesoft

Tynesoft seem to be making one quality game after another. They have now released a state of the art platform game — a classic of its kind.

Jet Set Willy, Manic Miner, etc were some of the earliest games round and no doubt many of you will be wondering if this stands the test of their time. Well, have no fears, for Tynesoft, whose dedication to quality in the less popular machines must be applauded, have come up trumps with this conversion of Jet Set Willy II.

It has (and you can count them if you want) over eighty screens of frustrating, addictive, brain-teasing fun and turbo loads in four parts, fully utilising the total C16 memory. This is an idea which up to now has only been used by very few software houses, and it should be used more often. Follow their example, C16 software writers.

Here is the plot of Jet Set Willy II; You are Miner Willy and you were recovering in hospital from a fall down the stairs. While you were gone however, the builders came in and added lots of room to your mansion. Now you must clear up the mess they've made — which entails lots of exploring and collecting on your part — an arcade adventurer's dream. I say arcade adventure because, as in Monty on the Run, you can explore all the locations of the house before actually trying to complete the game. This, in both



these games, is an excellent idea and takes them out of the simple platform category. Jet Set Willy II's graphics are excellent with brilliant animation — especially the walking fish bowls (which remind me of Noel Edmunds, don't ask me why) and the laughing and blinking heads. A lot of expert programming has gone into these features. Tynesoft tell us that it was programmed close to their Newcastle home. I believe them but it is good enough to have been accomplished by the great Udo (Winter Events) Gerz. Odd, how other Commodore Magazines have suddenly woken up to him after we gave him an Oskar, isn't it?

Jet Set Willy II's playability is really incredible. I still don't believe how terrific this game is.

This is an all-time C16 great, definite and immediate addition to your collection.

There will be arguments whether this is better than Monty on the Run, but then this is four or five months later and so there are bound to have been improvements in technical sophistication.

Tynesoft are really making a real showing in the software stakes and I can't wait for their next game — said to be an awesome shoot 'em up of the classic style.

C.K.

Price: £6.95.
Graphics: ★★★★★
Sound: ★★★
Playability: ★★★★★
Rating: Mega

NEW ACTION REPLAY V.3 FROM DOSOFT UNSTOPPABLE 'TOTAL BACKUP' CARTRIDGE

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COMING SOON

FROM

MICROVALUE

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GAC ADVENTURE BOOK

Incentive have come up trumps this month and are giving us 25 copies of the GAC Adventure Writers Handbook. If you want to know how to write a good adventure, then this is the book for you. Answer the following questions, then send your answers on a postcard to: GAC Competition at CCI. What are these adventurers known for?

1. Amerigo Vespucci
2. Amelia Erhardt
3. Sir Edmund Hilary
4. Marco Polo
5. Dr Livingstone

Closing Date: 15th May 1987

WIN!

PIRANHA'S NOSFERATU

Nosferatu takes you into the world of the undead and challenges you to outwit and destroy the vampyre.

We have six copies of the game to give away to the first six correct entries pulled out of our comp. sack. Send your answers to these questions on a postcard to CCI marked 'Nosferatu Competition', to reach us by May 15th.

1. Who played the vampyre in the film "Nosferatu"?
2. Name one blood-sucking parasite
3. Who wrote 'Dracula'?
4. What is the medical term for sharp, pointed teeth?
5. Name one other Piranha game.

WIN!

GREMLIN'S C16 WAY OF THE TIGER

We have a treat for all the C16 owners out there from Gremlin... 25 copies of their smash-hit game "Way of the Tiger". This game is the follow up to their successful "Avenger" and is just as much fun to play as that smash.

The first winning 25 postcards out of our comp sack will get a copy. Postcards to "Tiger" competition at CCI, to reach us by 15th May, or else...

1. Name another famous Gremlin 'animal'
2. Complete the lines, 'Tiger, tiger burning bright...' and who wrote it?
3. What means of self defence is used in 'Way of the Tiger'?
4. What's wrong with this statement, 'A tiger never changes his spots'.
5. Who said 'imitate the action of the tiger'?



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WIN!

GREMLIN'S FOOTBALLER OF THE YEAR

Ever thought *you* could do better as you watched your favourite team head for disaster yet again?

Try out your management, tactical and financial skills with Gremlin's Footballer of the Year, the prize which 25 readers can win in this fun competition.

Send the answers on a postcard and you could be storming up the league in no time. Entries to CCI marked "Footballer of the Year" to reach us by May 15th.

1. Who is the manager of Barcelona Football Club?
2. Name the year Argentina last won the World Cup
3. Who were the *previous* managers of Manchester United and Arsenal
5. Who is the Managing Director of Gremlin Games?



Send your entries to:
CCI, 40 Bowling Green Lane, London EC1R 0NE.

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The hottest program in Europe (Made in Germany). Excellent graphics. Since you are reading a serious Computer Magazine we cannot show you more than a title picture and cannot explain what actually happens when you have started the program. Only one thing: we got a great review in PLAYBOY magazine (German edition) 11/86 page 33.

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Miss All Bare America

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That means, that it contents a sub-programme which makes your games machine-code-fast. Spritesequences, sounds, music, everything works quick and independent of each other. Even beginners can program complex games because your programme that uses the RP-System-subroutines is simply programmed in BASIC. Only one line programmed in BASIC produces action you never dreamed of.

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The RP-System by the founder of HOMECOMPUTER* and CPU* is used thousands of times throughout the world.

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It is available on Cassette or Disc (ca. 1300 blocks used).

Its available on **Disc £14.90 Cassette £15.40**

* Bestselling homecomputer-magazines 1983/84 in Germany, Switzerland and Austria

For Commodore 64



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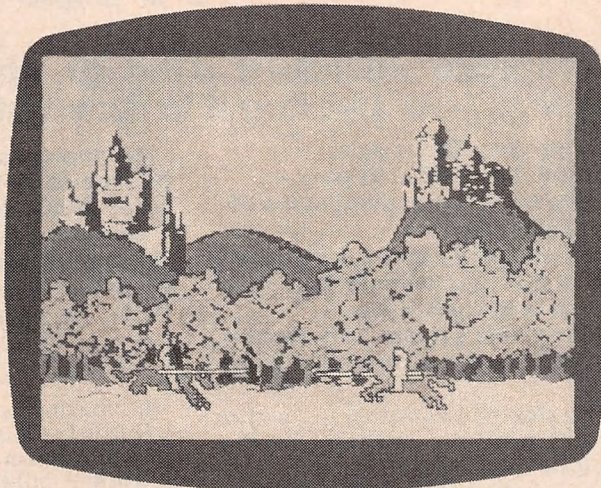
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Major new title arrives ...



...by Helicopter!

Microprose has taken to the air, literally, with its major new title, *Gunship* — delivering it to distributors by helicopter.

First stop was Microdealer International, Milton Keynes — much to the astonishment of the 16 strong workforce.

Nobody knew about the surprise visit, or that they were all to go for a joy ride in the helicopter.

Microdealer's managing director, Lee Ginty, had also been kept in the dark.

"The staff will certainly remember *Gunship* after this. So shall I, it's the first time I've ever been in a helicopter," he said.

Gunship is a simulation of the Hughes AH-64A Apache combat helicopter — one of the most lethal weapons in the modern military arsenal.

Stewart Bell, Microprose managing director, said later: "We wanted *Gunship* to arrive in style, so we hired a helicopter.

"Admittedly it wasn't the same machine as the one in the simulation, we didn't want to cause a red alert!"

Microprose aims to make similar helicopter deliveries to a number of other distributors.

Gunship has been released for the Commodore 64/128, price

£14.95 for cassette and £19.95 disc. Versions for the Apple, Atari ST, IBM, Spectrum, Amstrad CPC and Amiga, are to follow.

Win *Gunship* Goodies

Gain all your heart's desires in this fabulous Microprose competition ... The winner will win not only a *Gunship* sweatshirt, but also an Airfix model and, best of all, a copy of each of the Microprose's famous games: F15 Strike Eagle, Silent Service, Solo Flight, Acrojet, Kennedy Approach, Spitfire Ace, Hell Cat Alley, Mig Alley Ace, Conflict in Vietnam, Crusade in Europe, Decision in the Desert,

Nato Commander and of course, *Gunship*.

Don't forget to let us know which size you prefer your sweatshirts to be! To enter, send your answers to the following questions on a postcard to *Gunship* Competition, CCI, 40 Bowling Green Lane, London EC1R ONE to reach us by May 15th.

1. Where was the *Gunship* Helicopter first used in conflict?
2. What was Microprose's first simulation success?
3. How many blades has a normal helicopter's rotor?
4. What is the C-47 and what is its alternative name?
5. Name the Major who leads Microprose.

TOP TWENTY

'Gauntlet' is still at the top of our C64 chart, though Paperboy has crept back up the chart and is hot on its heels. Anco are making a mark on the C16 front with three hits, including the No.1 game.

C64

GAME TITLE	COMPANY		Price (£)	Rating
1 Gauntlet	US Gold	→←	9.99	Mega
2 Paperboy	Elite	↑	9.95	Mega
3 World Games	US Gold	↑	9.95	Crisp
4 SWAT	Mastertronic	★	1.99	T.B.A.
5 Hyperbowl	Mastertronic	★	1.99	T.B.A.
6 Jailbreak	Konami	★	9.95	Crisp
7 Escape from Singe's Castle	Software Projects	↓	9.95	T.B.A.
8 Flash Gordon	Mastertronic	↑	2.99	Crisp
9 BMX Simulator	Code Masters	★	1.99	Crisp
10 Space Harrier	Elite	↓	9.95	Crisp

C16

1 Winter Events	Anco	↑	7.95	Awesome
2 Masterchess	Mastertronic	★	1.99	Crisp
3 Blockbusters	Macsen	★	7.95	Crisp
4 Hit Pack	Elite	★	9.95	T.B.A.
5 Bridgehead	Anco	★	5.95	Mega
6 European Games	Tynesoft	★	7.95	Crisp
7 International Karate	Endurance	★	2.99	Iffy
8 Sports 4	Anco	★	7.95	Mega
9 Storm	Mastertronic	★	1.99	T.B.A.
10 Comp Hits 10 Vol 3	Beau Jolly	↓	9.95	T.B.A.

★ NEW ENTRY

Compiled by CCI from leading distributors

WARNING

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KRAKOUT

BUT WE
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DON'T LET THAT HAPPEN TO YOU - GET TO IT BEFORE IT'S TOO LATE!

A two way test of skill and nerve - can you out-manoeuvre the awesome ogre and blast a path through the myriad of colourful blocks and on the return, are your reflexes fast enough to retrieve the speeding missile, deflected from its block shattering journey or regurgitated contemptuously from the ogre's mouth.

Graphically brilliant. Compulsively absorbing. At the highest levels your skill and speed must be exceptional.

CBM64/128, Amstrad
TAPE £9.99 DISK £14.99

GREMLIN

Spectrum 48/128k, MSX
TAPE £7.99

Gremlin Graphics Software Ltd., Alpha House,
10 Carver Street, Sheffield S1 4DS. Tel: 0742 753423

DANGER: 100 ACTION PACKED SCREENS MEANS THIS GAME IS OVERLOADED WITH FUN!!

LETF

TRACKER
TRACKERTracker —
Rainbird Software

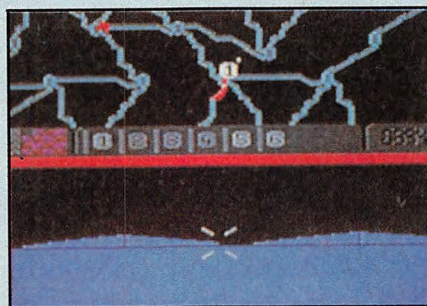
The Art Studio, The Music System, The Pawn — The story unfolds for Rainbird, Telecom's newest label and the one that currently occupies that dangerous area of software called 'leading edge', once the personal stomping ground of Beyond.

The problem with such accolades, as Beyond themselves would testify, is that it only takes one or two turkeys to shoot it to bits. While Starglider may have introduced Rainbird to the masses, I fear Rainbird's reputation as the class Adventure and Utilities house may be now in jeopardy. For, alas Tracker will do them no favours at all.

The main problem is that it attempts to hype itself into areas that it's ill-qualified to occupy. Artificial Intelligence, for instance, is mentioned several times in the packaging, but in effect all you have is a tough opponent and you'd expect that in any decent computer game. Likewise, claims of it being a combat simulation are shot down as soon as you see the graphics, and the arcade screen is really not of the standard we'd expect from a game almost 2 years in the writing.

It certainly attempts to set a new standard in its class, but what we have is really 2 games — one Strategy, where you remotely control your units on a map of the playing area, and one Arcade, where you shoot out your enemy in one-to-one combat. The strategic bit is simple and actually quite absorbing: you start with 3 units which move around on the Trackways (a bit like Tube lines) as and where you direct them. You may either do this directly, telling each unit where to go at each junction (or node, as it is called) or you can set a course for the unit and

it will proceed to that point automatically. Obviously units are sent out to stop you, and this is the main point of the game where artificial intelligence is supposed to come in. Some nodes are really Communication Centres (only colour distinguishes them) and these have to be disabled to regain control of the playing area. At any time you may call down reinforcements (up to a max of 9) if the unit you wish to support is in a friendly Sector (ie, the Comm Centre is destroyed) and these units are then controlled individually in the same way as before. Accessing these units is as



simple as pressing their number on the keyboard and there is on-screen status-line to show you which units are in use, which are in danger, and which are destroyed.

The main problem with Tracker is that you can't remotely engage enemy units, only avoid them. Thus every time you are under attack you must switch to the very dull arcade screen (showing your Unit in the trackway) and wait for your opponent to appear ahead of you. Shoot a few times and he's gone, but if more than one of your units is in danger you will almost certainly lose the others while you are waiting for your first kill to appear.



Graphically the game is rather dull with colour used unimaginatively. I was disappointed to see no distinction made between types of enemy unit, or geographical differences between Sectors, both fairly simple alterations to include. The on-screen map scrolls well, but enemy units are shown as coloured blobs and in a hectic battle it soon becomes very confusing as to which are your most immediate dangers. It's a shame Tracker didn't drop the arcade screens and attempt to be a really good wargame, because I'm sure with a little variation it would have made it. Some of the reviewing team had different ideas and thought that Tracker did have something going for it. There were comments like 'Tracker could top the addiction charts... it is an interesting mixture of styles... it could top the addiction charts' and even that 'it was terrific value for money'. I disagree.

In 1987, with games like The Sentinel selling for under a tenner, I'm tempted to say nothing's worth £17.95 and certainly not Tracker. If Rainbird are trying to imply that long and expensive development time has to be recouped by a high cover-price, then the product should at least demonstrate the technical brilliance of The Pawn (also years in the making). Most software houses could have polished off Tracker in under 6 months and some might have rejected it even then. What you can say is that Tracker is a try at something different, but probably Rainbird will do better than this next time.

T.M.

Price: c£14.95, d£17.95
Graphics ★★
Sound ★★
Playability ★★★
Rating Iffy

Space Harrier — Elite CRISP

Once again Elite take us into the land of the arcade machine, this time with Space Harrier. You are off to try and save Dragonland and being the seasoned spacewar veteran that Elite say you are, that should be no problem. The Dragonland is occupied, so I am informed, by evil, barbaric creatures hell bent on your destruction. They are supposedly controlled by a supernatural phenomena. So what are you waiting for? Get out there and do battle with these deadly alien beings.

The view you've got of the playing area is very much like you had in 3D Deathchase. The concept of the game is also very similar. You have got to avoid the trees and pillars whilst trying to blast the aliens. You have a time limit in which you can try and get as far as you can and get a few thousands. As you progress through the levels and run out of time you then get nine lives to

finish the game and save Dragonland. A simple enough game for the arcade, shoot 'em up addict but it hasn't really got the substance to hold my attention for very long. There was not enough variety. The graphics are not up to the usual Elite standards because



they have a rather unfinished chunky look. The sound is reasonable but not up to standard once again. Quite playable but not the best one Elite have done.

J.A.

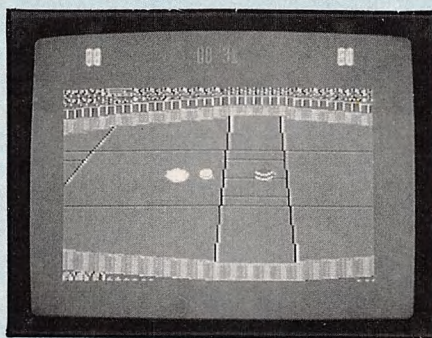
Price: £8.95
Graphics: ★★★
Sound: ★★
Playability: ★★★★★
CCI Rating: Crisp

Xeno — A'n'F CRISP

Ipswich for the snow cup! Sorry, got carried away a little. Xeno is not really a football game, although it's very much the same principal. Xeno is in fact a kind of futuristic Ice Hockey.

Many years ago on the frozen wastes of Io, there was very little in the way of entertainment for the miners and pioneers. They got into the habit of kicking a small ice puck around. The game became very violent and the killing of an opponent was not unusual. Now, though many years from those early games, the game of Xeno, named after the earth colony on Io, has become more sophisticated, but it is still a test of physical power. The idea is to take turns in shoving the puck and trying to get it in your opponents goal. Although Xeno has a very simple basic idea and easy gameplay it is a suprisingly addictive game. The game is played in four quarters and each quarter can last from one minute to nine minutes. The player who has scored the most goals is deemed the winner, after your chosen length of time has elapsed.

The graphics are nothing special but are good enough and effective for their job. The game has nine different computer speed levels from mega quick to dead slow. The little board which shows quarter you are about to play in swirls on like when the BBC in 'Top of the Pops'.



(As all T.V. pop programmes look alike, I'll bet international readers know just what I mean!) The sound is also nothing to write home about but it did not spoil my enjoyment of the game. I found Xeno playable than A'n'F's latest release of Core. So well done to A'n'F and lets have some more simple but enjoyable games like XENO.

Price: £8.95
Graphics: ★★★
Sound: ★★
Playability: ★★★★★
CCI Rating: Crisp

Nosferatu — The Vampyre CRISP

Nosferatu (what a name! reminds me of Nosmo King — No smoking, geddit?) is the title of the latest arcade adventure from Piranha Software.

The story goes as follows.

You begin the game as Jonathan Harker, an estate agent clerk who has shown a first time buyer this wonderful enchanted castle. However, you place down the important papers and when you go to find them, they have disappeared. This is when you discover that the hopeful buyer is really Nosferatu — The Vampyre.

So you, Jonathan Harker, must find the title deeds to the place and escape from the castle in Wismar. Nosferatu walks the castle at night but in the daytime he sleeps but just in case you thought it was going to be fun, there are rats, bats and spiders which drain your energy. Not a really recommended place for a quiet vacation. You can examine most objects such as beds, cupboards, tables etc to try and



find some things that may help you in your quest. Some of them will give you a considerable advantage, so examine them carefully.

There are three parts to Nosferatu the Vampyre. In the last part of the game you have to lure Nosferatu to your room and hold him there until dawnbreak and then the spell will be broken.

Overall not a bad game at all really, if I did have criticism though it would be that you have to complete part one to enable you to see screens two and three. The first part reminded me of Fairlight it was entertaining and kept your interest. Both graphics and sound were good, although controlling your character with the joystick was a little tricky at times. This is surely a game that will appeal to more than the late night TV horror watchers. It demands a considerable amount of attention, and it is fun to play and is good value for money.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★★★
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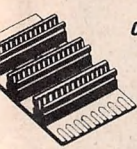
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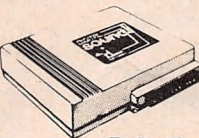
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C16

MEGA

Voidrunner and Hellgate — Ariolasoft

Voidrunner is another of Jeff Minters classic games and you can tell that Jeff is involved in it somewhere — with levels called things like yak, sheep, llama or camel — can't you?!

Voidrunner is a kind of centipede game but it is much more than that as well. First I must tell you about the games' presentation — incredible, a colourful noisy title screen, a large colourful intro to each level with a bit of music from Close Encounters of the Third Kind, whizzing flashing lights as you begin play, and a myriad of dots twisting and turning in the background. Even the 'game over' sequence is good enough to make you want to get killed just to see it!

The game is no disappointment either with arcade quality sound and graphics.

Your space ship is made up of four different pieces with a green mastership, all the other pieces are imperious to a certain kind of attack. On the first few levels you get the usual thing — aliens coming down at you at a terrifying speed and you blasting them while keeping out of the way of a few rockets and the ever present zapping vertical line, but then things change — you find yourself shooting DOWN on the aliens or firing outwards in all four directions, you never know what to expect.

There are 30 levels in all, and as in all Jeff's games you can start off in any of the first 16 levels.

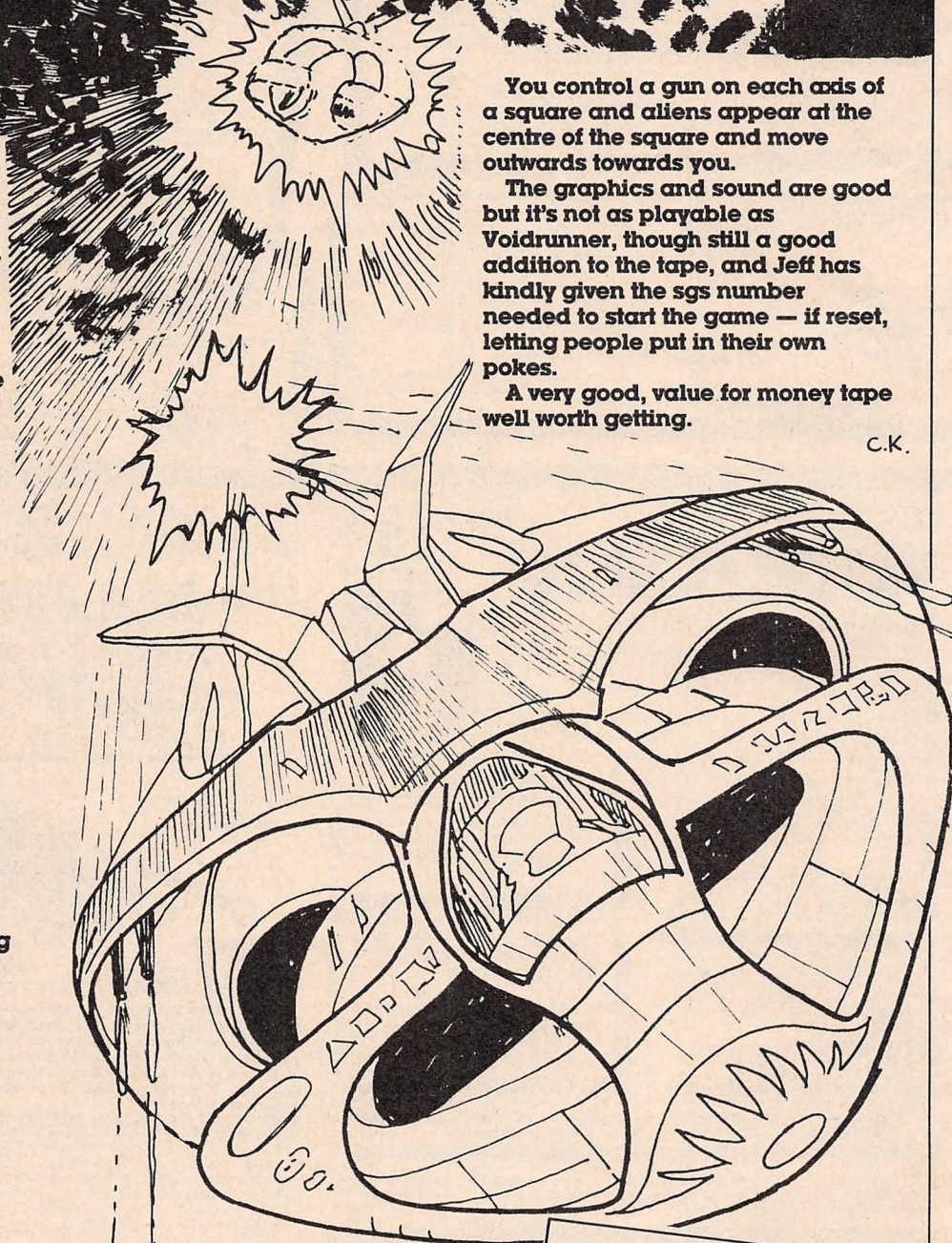
Hellgate, the second game, isn't as good as Voidrunner, and it's hard to master being a derivative of the game Lazerzone.

You control a gun on each axis of a square and aliens appear at the centre of the square and move outwards towards you.

The graphics and sound are good but it's not as playable as Voidrunner, though still a good addition to the tape, and Jeff has kindly given the sgs number needed to start the game — if reset, letting people put in their own pokes.

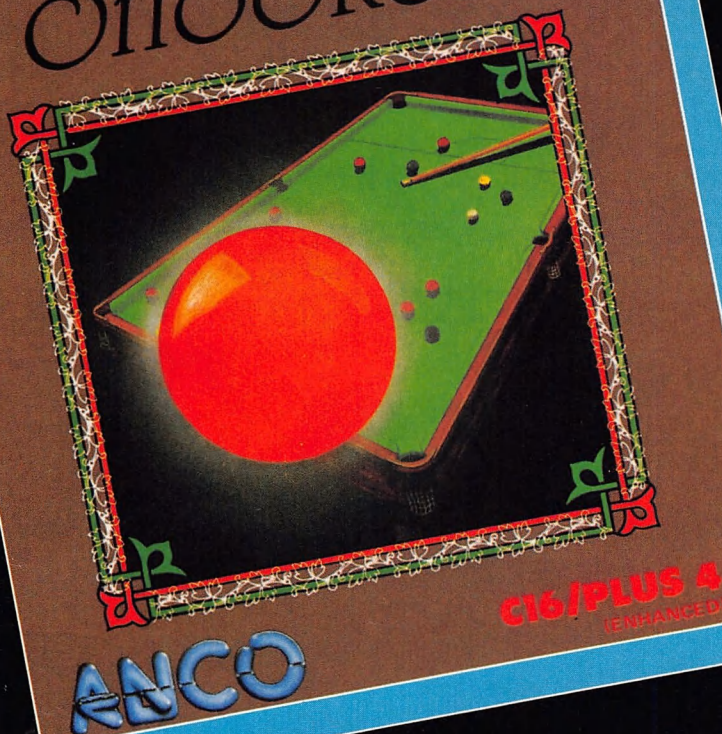
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C.K.



Price: £6.95
Graphics: ★★★★★
Sounds: ★★★★★
Playability: ★★★★★
Rating: Mega

Classic Snooker



Classic Snooker

CBM 64/128

C16/PLUS 4

AUTHENTICITY CLARITY OF GRAPHICS ACCURACY

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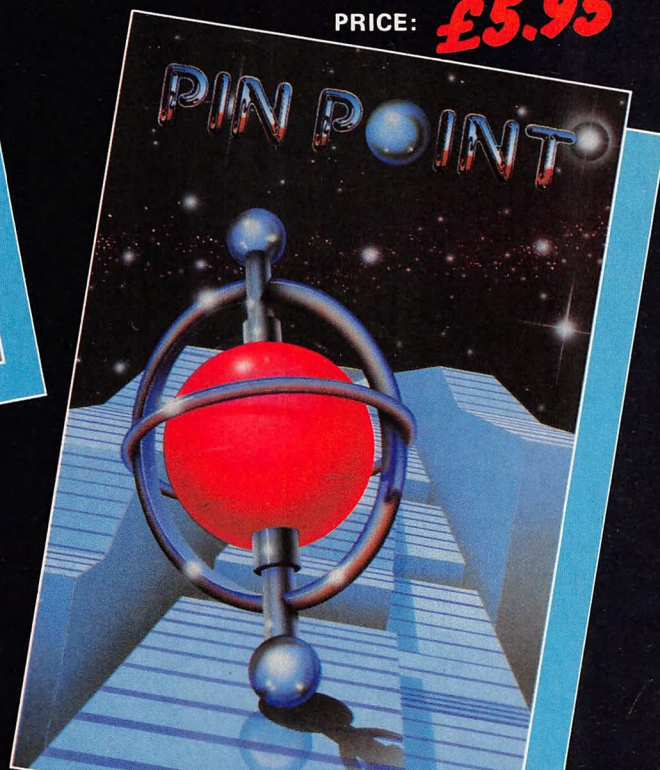
Flicker free graphics and smooth action.

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PRICE: **£5.95**

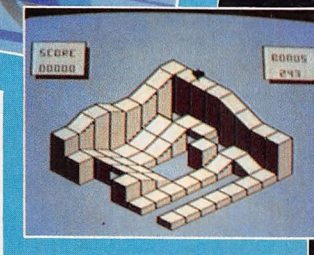


PIN POINT

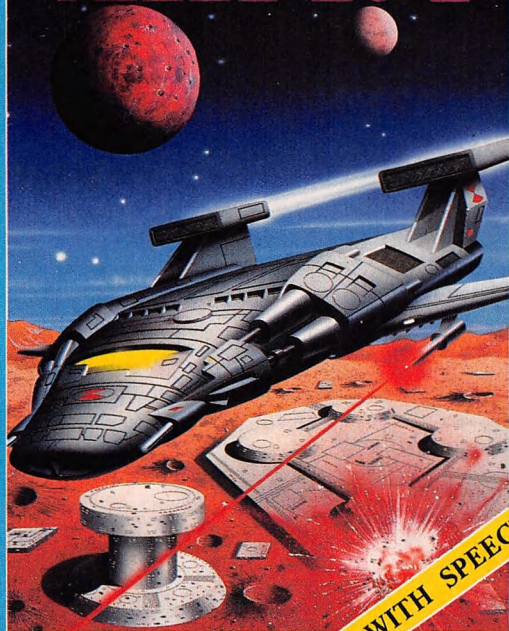
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C16/PLUS 4

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C16/PLUS 4 **£7.95**

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For the PLUS 4 owners, the built in software like word processor and data base can now be used with a CASSETTE player. It also corrects the bug in the file manager.

C16/PLUS 4 Cartridge **£19.95**

C16-PLUS 4 REFERENCE BOOK

The book lays special emphasis on the graphics, sound, music and machine code programming. The graphics cover standard, multi colour, high resolution, bit mapping, soft scrolling and raster interrupt. It's coverage of machine code is extensive and gives full information regarding KERNAL routines and how to use them in your own programmes. The book gives complete memory map, 7501 processor commands, C64-C16 comparison chart to enable conversions and all important KERNAL jump table. The subject under discussion is explained lucidly and illustrated by examples, often with line by line explanation.

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The Ram Pack expands the memory of C16 to full PLUS 4 memory capability. If you are using the computer as a word processor or data base, the extra memory is almost essential. Of course you will also be able to play PLUS 4 only games.

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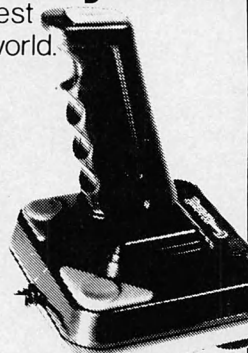


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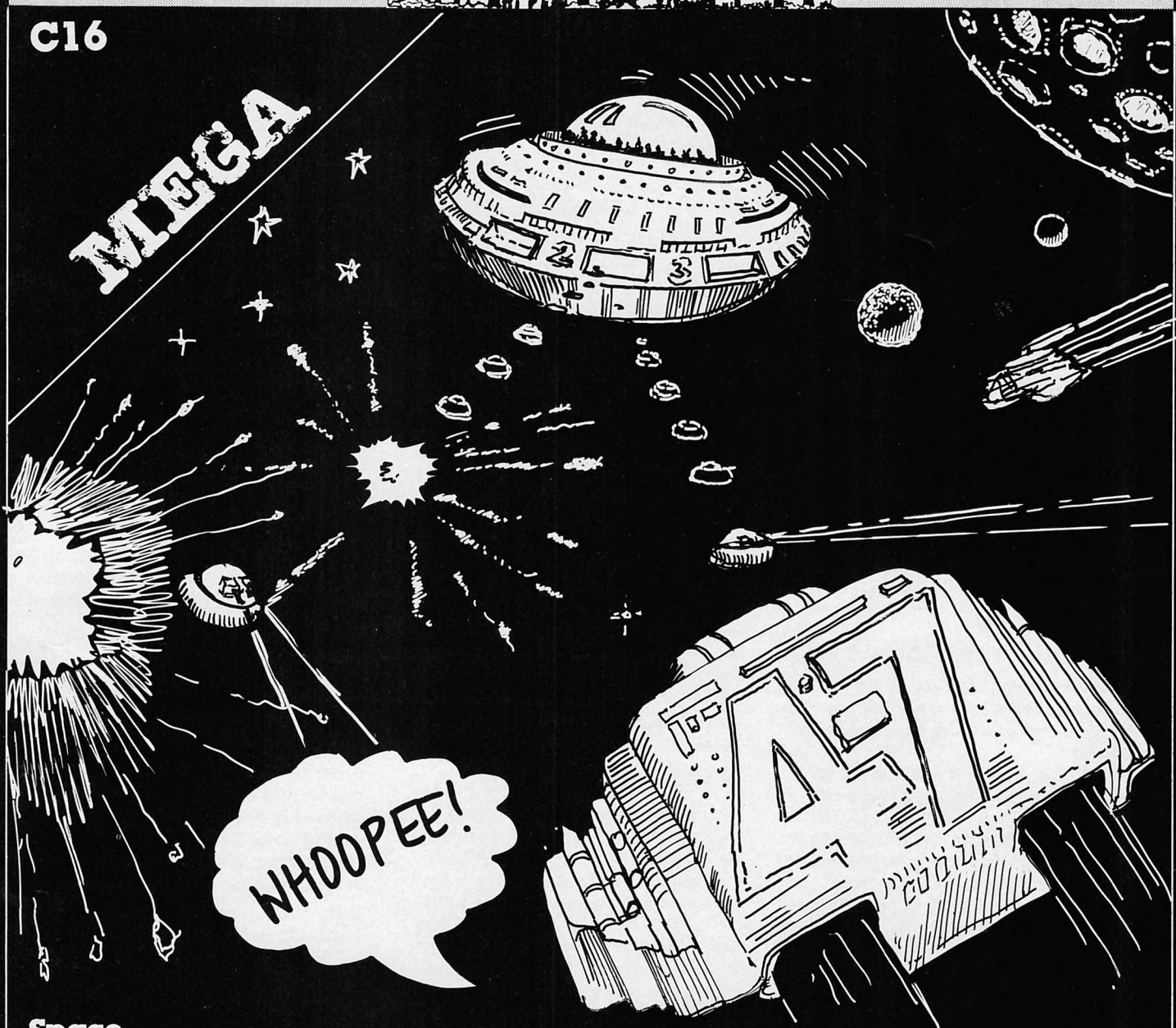
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C16



Space Fiends/Liberator — Magnificent 7

Magnificent 7 are a funny little software house that are not very well known. They produced a really naff game, Pharaoh's Tomb, and a really terrific, awesome one, Indoor Soccer. This double game tape is no exception. Space Fiends is about as naff as you can get and the other Liberator is truly... well, Mega, at least...

Space Fiends is a horrible version of that old game Phoenix. You must rescue the scientist trapped in a bubble on the right side of the screen by shooting the aliens as they fly away with them. As you might guess that isn't all there is to it — the pesky aliens drop bombs which on landing turn into blobs which kill you on contact. You can also shoot these but it is difficult and not worth the effort.

Graphics are average and so is the sound but the gameplay is absolutely sleep inspiring.

It is often said that one bad apple spoils the whole lot, but this is definitely not the case with Liberator. It's what all you C16 owners, who have been slaving over the '64 Uridium, have been waiting for! Yes that's right... a Uridium clone whoopee!

Your craft is fuelled and ready for action, are you up to it, can you stop the annihilation of mankind. You're sure as hell gonna try!

Your view of the battle is from above, looking down on the Anconian Mother Ship and swarms of her fighter pilots come flying at you. Turrets fire at you as you make your way to the Mother Ship reactor and you can shoot them out when you get to the reactor you must do some ace blasting to penetrate its shields close up, thereby gaining access to the next level.

You must see the graphics to believe them — mettalix-looking blues and golds in true Uridium style — totally brill!

Though Liberator is really a kind of Defender or Scramble game it is incredibly addictive and is just the thing we've been waiting for (I hear tell another software house are doing a Uridium copy too and from what I've heard it should be good. Liberator will keep us fully occupied till then though).

If you're buying this because it has two games, forget it, Space Fiends is rubbish but if you're a fan of Uridium (like me) don't hesitate! Liberator's worth the cost by itself.

C.K.

Price: £6.95
Graphics: ★★★★★
Sound: ★★★★★
Playability: ★★★★★
Rating: Mega

Andy Moss, one of the UK's most famed adventurers.
comments on all the many and
increasingly popular aspects of ...

Adventure!

Adventure News

Mosaic/Virgin Tie Up

Mosaics latest release, *The Growing Pains of Adrian Mole*, will be published under the Virgin Games banner. Programmed by the Level 9 team the game follows another year in Adrian's life, and is based on Sue Townsend's second book. The first game got good press, so it will be interesting to see how the sequel fares.

Adventure DIY Aid

For all you budding adventure writers who are using Incentives GAC program to implement your games, take note. Incentive have released a 50 page booklet entitled the *GAC Adventure Writers Handbook*. It is a complete guide to getting the very best out of the system, and includes some important tips on writing interesting stuff. At £1.25 it's a good investment.

Newie From Level 9

Rainbird are set to release Level 9's new adventure entitled *NIGHT ORC*, and it will of course contain all the usual Austin brothers frills, in the guise of type ahead, huge text,

humour and something new, digitised Pics. In *Night Orc* you play the part of the Orc in question, and get the chance for revenge on all those humans! A review as soon as I am sent a copy.

Letters

It was with great interest that I read your adventure pages in January's CCI. I thought your review of *Tass Times In Tonetown* most informative and shall go and buy it. However I do have a criticism and that is that you are volunteering hints on problems in your initial review, eg *Moonmist*, and the mirror puzzle. I am sure there are many other adventurers like myself who would like to be baffled by such problems first before reading a hint in a review! Could you therefore restrict your hints to just the help section in future.

Jeffrey S Marco
London

How on earth am I supposed to convey the type of puzzles that lie in an adventure, without mentioning at least one of them in the review! A review should be thorough enough to give the reader a good description of the product before parting with any cash, and if that means dropping a subtle hint on the way, so be it.

It's Official — Adventures Go Arcade

Greetings from Middle Earth, and to another delve into the intricate stories that adventurous heroes are made of.

First off, I have a confession to make. There is an arcade game that has got me hooked, line and sinker, broken my joystick, and has kept me playing until the proverbial cows have come home and truly home. It is a game that even my slow ponderous not-used-to-zapping reflexes have taken to most seriously. I refer of course, to none other than the mighty *GAUNTLET*. A true D&D adventure that has everything, from monster bashing, to treasure seeking, and more. Level after level of mazes, and more than a few traps, it really brings D&D into your home — almost too real for comfort. If this is the shape of arcade games to come, then I must seriously consider updating my joystick!

Thanks for all your letters, which have been on a wide range of subjects ranging from pleas for help to criticism (Jeffrey S. Marco please take note!) and space permitting, all will get answered within these hallowed pages.

This month there is Kayleth to look at, (loosely based on a story from Isaac Asimov's magazine.) *Dodgy Geezers*, another spoof from the Lever/Jones stable, and *221b Baker Street* from US Gold.

Also this month I have included a personal rating out of 10 for each review which should leave you in no doubt as to my overall impression.

**MORE ADVENTURE
HINTS FROM ANDY
MOSS ON PAGE 62 -
- MIND FOREVER VENTURING!**

I can't get past the gate in "The Magicians Ball", because the gold mouse won't unlock it.

Finn Mccan
Eire

Now then Finn, I suspect that you are at the start, or at least near it, because you don't go through the gate until much later. Use the mouse to open another door on the first level, where you will find a plank. Put it on the gooey mass and cross over into the tube of light which leads to the second level.

I hope you can help me. I've been playing Ultima IV for months and have come to a dead end. I need the Mantra of Pride, and someone called Faultless knows the answer. I fear I have killed him off. Can you tell me a) Where he is to be found, and b) what the Mantra is.

For all those Commodore adventurers without a disk drive, get one 'cos Ultima IV is not to be missed.

Steve Miller
Lancaster

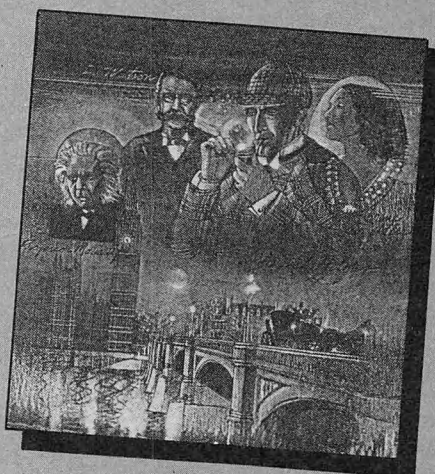
First off, Steve, you should read the section in the Feb issue as I gave a lot of help about Ultima there, but anyway here goes. Faultless can be found in the town of Magincia, and the Mantra of Pride is MUL.

221b Baker Street US Gold £9.99 cass £14.95 disk

When this package was first brought to my attention. I was more than a little interested, as it sounded quite a novel idea to emulate a successful boardgame. Well hasn't Trivial Pursuit done well? In this case the game in question is one that I have played on numerous occasions and enjoyed immensely.

The idea is a sort of Cluedo-type affair where the players take on the roles of Holmes, Watson, Lestrade and Adler and try to be the first one to solve a case. You throw a dice and move around the board into selected locations where hopefully there will be a clue waiting for you in the guise of a clue card. Once you think you know who did it, why, and with what, you rush back to Baker Street and announce your deductions.

So much for the board game, what about the computer version. Well the graphics have been done by Interplay, who have been responsible for some terrific adventures, like Borrowed Time,



and Tass Times, so that's good. There are 30 cases to solve, each one set out for you in a casebook, that's good too. Load up... play, and oh dear it's all a bit boring, that's bad. This is definitely one case of 'board game should not go onto computer without changing it a bit' syndrome. You press a button, and the dice number is chosen for you, you move the little figures (pretty though they are) around a 3D grid which has the buildings dotted about, you go in one, get your clue (it's very easy) and then you have to do it all again.

True, there are some very nice spot fix, and even a bit of digitised speech thrown in. A lot of what I call twiddly bits. But what is really lacking is the excitement that the board game generates, the game core. It's simply not there. For what this game costs, you're better off going out and buying the real thing, it's miles better.

Personal Rating ----- 3

Portal Activision 3 disk Set £23.99

You were woken up... why? Yesterday, or so it seems, you had blasted off from Earth on route for Cygni to spend a year observing the double star. Now you find yourself approaching Earth orbit with the ship preparing to land back at base. You start to become fully awake, and realise of course that it wasn't yesterday, that you left Earth, or the day before for that matter but many years ago. The long journey to Cygni was the reason for the deep sleep, but as you approach Earth, you realise something is wrong. You have been recalled, and revived by the ships computer for a reason... but what? As you sweep over the Western Hemisphere you

grow alarmed. Where are the cities, the constant communications chatter, and the busy hubbub of traffic and teeming human life! This was the reason, the planet is completely and utterly devoid of all life. Earth is empty.

On landing you explore the green grasslands (that's all there is now) and find an entrance to a tunnel shaft. Everyone must have moved underground, you muse, but still the eerie silence prevails. Nothing but endless corridors and dead machines. No sign of violence, just... nothing. This according to the computer is Chicago and... but what's this, a terminal with a ready light on! Nearby you see a manual with the words **WORLDNET EMERGENCY OPERATING INSTRUCTIONS** which you hastily read and realise that if you can communicate with the massive database it might tell you what has happened to everyone. You slip in a floppy disc that is with the manual and begin to probe into **WORLDNET**. You contact Homer, a living biological computer, who also wants to know the truth. Together, you set out to wake up the dormant memory banks of **WORLDNET** so that Homer can begin to remember, and maybe find a solution.

This is a game of such quality and atmosphere that to just give it a quick review just doesn't do it justice. I do not know how Activision keep on coming up with such original software. They had me converted when **ALTER EGO** was released, a truly innovative piece that, but with **PORTAL** they have gone one better.

It is billed as the world's first computer novel, and there is no doubt that it goes some way to that end. The story, as you battle through the computers faded memory slowly unravels piece by piece like pages from a book, and the fact that the background puts you in front of a screen in the story, makes it all the more chilling. Here you are (albeit in the comfort of your home) in front of your terminal fighting for answers with Homer.

Remember System 1500? The code cracking game? Well, that will give you an idea of the screen layout for **PORTAL**. Using the joystick you can roam around the 12 Dataspaces of **WORLDNET** accessing new data for Homer to interpret for you.

Each dataspace is connected by icons and you can access either

CONTINUED...

Adventure... CONTINUED

Central Processing, Homer, Psychology, Edmod (education), Life Support, Wasatch (genealogical information), History, Military, Psilink, Scitech, Geography and med10 (medical information). At first all the dataspaces are empty, bar one, you have to find it, and then slowly things will begin to happen. As the system wakes up again it will start to unravel the mystery, but it's only by your input that this process will carry on. The packaging is superb, with the **WORLDNET** manual included along with a colour chart and a novelette. With three discs to use this is a game to come back to, but if you have a disc drive save up and buy **PORTAL**. Its original, unique, and best of all brilliantly implemented.

PERSONAL RATING ... 10/10

Kayleth US Gold/Advent Int £9.95

Before all you Isaac Asimov fans rush out to buy this adventure, a word of warning. Isaac Asimov didn't write this story, he didn't even have a say in the plot. In fact the only connection there is to the great man is that the storyline comes from a tale that appeared in a science fiction magazine bearing his name.

Having said all that though, **Kayleth** is pure science fiction, and if you like Asimov stories you'll like this. Well the plot anyway, because the actual implementation has quite a few faults to it.

I'll come to the moans in a moment, but let's have a look at the scenario.

You are a Zyronean who has dedicated himself to the destruction of the tyrant Keyleth, who has enslaved the planet in his obsession for Chromazin, a rare mineral. His androids force the people to mine the ore, whilst ruling the planet with a iron fist. You find yourself at the start upon a conveyor belt strapped in metal bands and moving closer to an electric charge from two steel claws. On top of all this, you have also lost your memory, all you know is that you have to survive.

This opening puzzle sets the scene in a very dramatic way and if you can overcome this little

setback, there's plenty more in store. The story is good, no complaints there, but my main moan is that as lot of the pictures are animated, the computer cannot deal with the graphics and scan the keyboard quickly enough, so you have to pause before typing each letter. The other gripe is that Mike Woodroffe has continued to use the Scott Adams style (remember he was the guy who produced Scott's stuff for Adventure International) and I never have liked that presentation. When you examine places you get "there's something here!", and upon taking it nothing tells you what you have! There are some very logical problems and some lateral ones and all in all its quite tough. Its a shame that a good adventure is spoilt by thin text and no thought for the user.

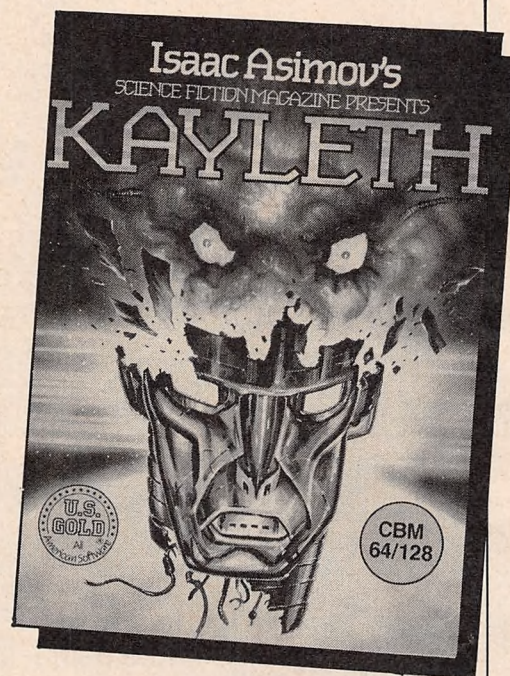
You have been warned!

Personal Rating ----- 5

Dodgy Geezers Melbourne House £8.95

What have Septimus (Little Ken) Griffin, Bullet Proof George, Tweedle Dee and Soapy all got in common, and more to the point, what did they have to do with the Long Ditton Spagetti Caper?

All the answers and more, are in **Lever and Jones'** newest creation **Dodgy Geezers**. Ever since I met these two talented Writers at the launch of their first game **HAMPSTEAD** I have been a fan of their work, because they always manage to find original and humorous plots. **Dodgy Geezers** is certainly their most ambitious project yet, combining red herrings and character interaction, with the sort of time related occurrences, albeit in a much simpler format, that we have seen in some of the Infocom mysteries like **DEADLINE**. If you also remember that their games are **Guill** based, you start to realise just what can be achieved



with DIY utilities given the right script.

Dodgy Geezers is all about villains. There are some good villains (that's you and Little Ken etc) who have been stitched up by some bad villains. Having done your time, due to having been grassed on by persons unknown you emerge into society bent on revenge. As you explore the town and its shady populace, you begin to sniff out a scheme. Along the way you meet up with some of your former associates, and by the end of Part 1 (there are 2 parts) you have to pick the best of the bunch to pull off a job that will put the lid on the grasser. This is where the timing is important, as certain events happen at certain times, and if you're not around, you'll miss something vital. I had to start over at least 3 times before I cracked the important bit right at the start.

A very entertaining adventure from a witty team. Well worth breaking into the piggy bank for.

Personal Rating ----- 9

Adventure Help

THE PHILOSOPHERS STONE

To get out of the town, hypnotise the guards by using the amulet, which is given by the old woman in thanks for finding her cat Felix.

EMERALD ISLAND

The forest station has two platforms, the south one goes to the seaside, and the north one goes to the native village.

THE PAWN

The snowman cannot talk, but to get past him he needs to melt. The colours are warm, try feeling them.

That's it for this month, next issue I hope to have a copy of Activisions new biggie, **Portal**, a three disc job, maybe Infocoms **Hollywood Hijinks**, and all the latest news and views. See you then. Don't forget if you need help, or you just want to say something about adventures write to me at C.C.I. 40 Bowling Green Lane, London EC4

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THE PRAWN

Never does a bus-ride seem more protracted than the one I take after buying a new game.

I sit, fuming at the geriatric performance of the bus-driver. I fidget with the bag. People start to eye me with suspicion. Inevitably, I open the package, reading the instructions thoroughly in order to get myself killed the second it boots up. So it was with Uridium, so it was with Mercenary and when, after a needed respite I purchased *The Prawn*, I had finished the novella which accompanied it by the time I got to my stop. And perhaps you will experience some empathy towards my suicidal reactions when, after repeated attempts, the game kept crashing.

Now I am reasonably computer literate, so I ran a series of tests to establish a pattern of faults, but the resulting crashes confined themselves to *The Prawn's* software. Everything else worked as usual. Could be the disk, I reasoned. So I went back to the shop.

Here's an experience everyone must surely have had. You take a faulty product back to the place you bought it. The salesman looks at you with a broad mixture of contempt and pity, plugs in, turns on or, in this case, boots up the offending item and lo, custard runs down into your collar.

I must admit the chap in the shop was very cheerful about it. He promptly took out another copy and gave it to me, putting my copy back on the shelf.

"Will this cure it", I asked stupidly. "No", he replied, flatly. "It's your disk drive alignment". His tone brooked no argument. I took another bus.

The alignment? That the man in shop had blanched at the mention of fixing; the alignment was nothing more than a simple end-stop from which the stepping motor measures its movements. I moved it. No effect on *The Prawn*, which still wouldn't run, or on my other software, which would. These tests took days while the object of it all was only to get the *The Prawn* to run. What I did next was therefore born of desperation, the like of which I hadn't experienced since writing my first program.

I never write to newspapers, never ring up TV or radio stations, and never try to contact authors and the like, so I was pretty surprised to find

G.P. Wayne had an adventure with some problems with an adventure. Magnetic Scrolls, creators of *The Prawn*, helped him out.

myself talking to a man at Rainbird about my problem. And more surprised when, in the midst of being nice to me, he told me he was very interested as the company were getting reports of similar faults from the USA. This was music to my ears for it confirmed some small evidence of sanity. "Listen", he said. I did. "Can I give your phone number to the programmers who wrote the game? I think they might like to talk to you".

I agreed, curious in any case to meet the authors of a successful game like *The Prawn*, and it was certain to be more interesting than watching it crash repeatedly.

Later that day, the phone rang. The voice identified itself as Roddy from Magnetic Scrolls, originators of *The Prawn*. I described the symptoms and ran a couple tests while he conferred with others at his end. Finally, he asked if it would be possible to see the machine in action.

They boot up *The Prawn* on my system. It runs the first screen. "It does that", I say. "It never gets past more than two or three, though." They are up quickly to the fifth screen. More screens. "It must crash soon."... "Hey, I've never got this far."

I have to turn away so as not to spoil my own exploration of the game.

"How about turning it off and booting up again?", I suggest to the wall in front of me, hoping my strained voice isn't giving too much away.

When the system is switched off I turn round.

The second time it behaved perfectly, crashed, I mean. It froze the first hi-res screen as it scrolled down. I breathed a big sigh of relief.

By now, a few of you who own a copy of *Lord of the Rings* may be thinking: hang on, that's what

happens to me. Indeed, the intrepid chaps from Magnetic Scrolls produced a disk of said game and booted that. It didn't finish loading the first time and the second attempt resulted in a crash after accessing the disk for a picture. This problem appears only to affect software running split screen hi-res graphics. Tricky.

Ken produces another '64 from about his person and asks me if they could possibly take mine away to examine the fault in more detail. I can hardly believe my ears: I buy some software, my computer won't run it. I ring the software house and the writers bring me another computer on which to play their game. Customer support as it should be!

But I pause for a moment, a short one. There must be a catch and I spot it.

"Yes, of course", I reply guardedly, "So long as I can keep this one long enough to finish *The Prawn*". I had visualised how truly awful it would be if they took their machine away while I was deep in some cavern or half-way across a rickety rope bridge, unable to continue on my own machine.

Ken and Roddy exchanged glances. "Er, no", says Ken, "we couldn't possibly leave it with you that long".

He did smile when he said it, but I know a gauntlet when I'm slapped with one.

"Ok", I muttered, no longer concerned with the affairs of this world. Donning a simple loincloth and carrying only a small earthenware jar of a secret ginseng extract I set off, bound for Kerovnia.

I cracked on Day 3, my pride in tatters. I had 160 points, no idea what was going on, and things were getting weird. I could get no further. So I threw away my tatters and rang Magnetic Scrolls. I described my situation to Roddy and told him how many points I had.

"Well", he replied, "you're doing better than the mere mortals." Was I? That made me feel much better.

"But do you know what you're doing yet?" he probed.

"Not really, well, that is..." I squirmed, not liking to admit to anyone I didn't know what I was doing.

"Did you talk to Kronos?"

"Yes. I took the note."

"Nothing else?"

"Oh." I was getting the idea. "But he never re-appears after the first time you meet him."

"That's right", Roddy replied. Back to square one.

CONTINUED ON PAGE 10

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Soundscape — Pro Midi Studio

By Mimetics Corporation Modular

The Soundscape Pro MIDI Studio is not just another 'Music Programme' but is a complete music package running under a dedicated multi-tasking music operating system. It comprises several programmes called modules that run simultaneously and independently of each other. These modules use MIDI to transfer music data back and forth to each other and between the Amiga and any external music equipment you may have connected to it. MIDI as I'm sure you know, is an acronym of 'Musical Instrument Digital Interface' which is a series of specifications agreed on by various electronic musical instrument manufacturers to enable their equipment to communicate with that of any other manufacturers using the same standard.

The modules on the Soundscape disk are:

CLOCK — Used to provide timing signals and synchronize modules and external MIDI devices.

CONSOLE KEYBOARD — Enables you to use the Amiga's keyboard as you would a synthesizer keyboard.

MIDI IN — Passes signals from external MIDI devices via a MIDI adapter to the other modules.

MIDI MIXER — Accepts input from the other modules on any of 16 different MIDI channels. It mixes together any signals that come in on the same channel and sends the result out on the same channel.

MIDI-OUT — Sends signals from other modules to external MIDI devices.

PATCH-PANEL — Allows you to route signals from any module to any other module by simply pointing to the icons of the modules you wish to link. Double clicking on an icon gives access to that module. Soundscape has been designed

with expandability in mind and as additional modules are released in the future it will automatically add icons for them in the patch panel.

PLAYER PIANO — Displays incoming notes on the screen as a graphical representation of a piano keyboard. The keys equivalent to the notes received change colour.

SAMPLED SOUND PLAYER — Plays notes sent to it from other modules or external MIDI devices using sampled sounds. These samples can be edited and modified to create new sounds/instruments. It will also let you create your own sampled sounds when used in conjunction with the Soundscape Sound Sampler which is available separately.

TAPE DECK — Records signals coming in from other modules or external MIDI devices. These recordings can be mixed, transposed or edited and then played back, driving any other module or external MIDI device required. **TAPE DECK** can be **MATCH** and **TRIGGER**. The **PLAY** and **RECORD** modes are self explanatory. When invoked, **ECHO** mode waits for an input from the Amiga's keyboard or other input source and checks the distance between it and middle C (C4). It then goes on to play whichever track you selected, transposed by this amount. **TRIGGER** mode will play back a track when it 'sees' a pre-determined trigger note, i.e. if a C had been chosen as a trigger note then playing any other note will have no effect other than to play that note. However, if a C is input, then the track selected will start to play. Inputting another C before the track has finished will reset it and it will start from the beginning again. **MATCH** Mode is an aid to learning scales, songs, rifts etc. To operate, a pre-recorded track is started in **MATCH** mode. The tape deck will play the first note of the track and then wait for the same note to be entered on the Amiga's keyboard or on an external MIDI keyboard. If you enter the same note it will proceed to play the next note and so on and so forth through the entire track.

Professional

To cover all of the features of Soundscape would have taken me several days and numerous reams of paper. It is a professional quality music package designed to be both flexible and expandable. It is icon driven and makes good use of the Amiga's friendly Intuition interface. It's easy to drive even for those more interested in the music than what makes Amiga tick. The Sound Sampler is great and is capable of some very impressive 'tricks'. It should keep most electronic-music buffs and novices alike amused for ages. Listening to some of the multi-track recordings provided with Soundscape can be an experience in itself (I think the term is **AWESOME**). I found Soundscape fairly heavy going initially and it took me several late night and dozens of cups of black coffee to learn how to drive it anywhere near its full capabilities. The 112 page manual is probably fine for anyone familiar with the world of MIDI, multi-tracking and mixing but may seem a little bewildering to anyone dipping their toes for the first time. For the casual music experimenter Soundscape may be a little over the top in terms of money as to make full use of its power would require the Pro MIDI Studio, a MIDI compatible keyboard/synthesizer, the Soundscape MIDI interface and the Sound Sampler. A quick tot up gave me a figure in excess of £600 but you would have to pay far more to achieve the same result from any other source.

Verdict

If you are just an enthusiastic dabbler you could probably pick up a nice all singing and dancing synthesizer for less money, use up less desk space and save on the coffee! But if you have an Amiga, and have a need or an urge for a powerful and professional music 'tool' then I would have no hesitation in recommending Soundscape. It is by far the best MIDI music package I have ever had the good fortune to use. Soundscape — Pro MIDI Studio £184.95 Sound Sampler — £124.99 MIDI Interface £59.00

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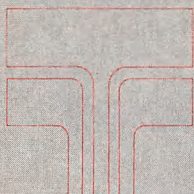
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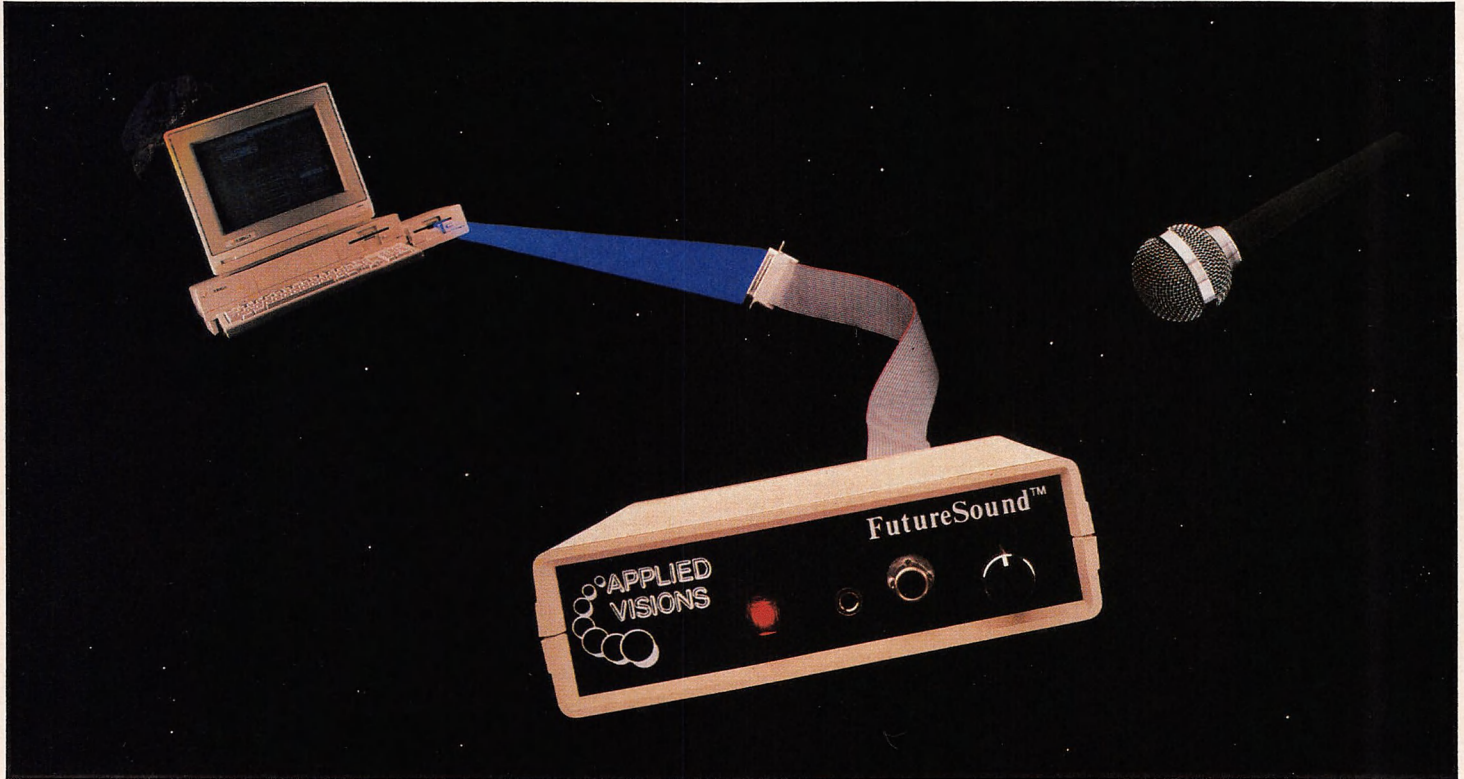
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As Reviewed in CCI January Issue



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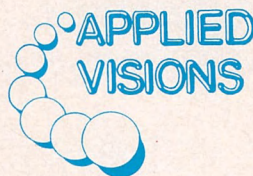
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THE PAWN

...CONTINUED!

On day four, I had to stop due to exhaustion.

You see, I play to win, concentratedly. Days go by and I lose track, in the time-honoured fashion. I'm lucky in that I work in blocks and between them can devote my time to concentrated gameplay. The Pawn had me fully in its grip and now I was getting places. Unfortunately, the clues had run out. No more help from the book. Anyway, typing them in had been a nightmare due to the unbelievable keyboard of the computer loaned to me by Magnetic Scrolls. You see, all the keys repeated at the slightest touch, causing hundreds of errors in my usually more accurate typing.

And all this was before the devil and the dragon.

On day five, exasperated, I had to ring up yet again. This time I spoke to a lady who identified herself as Anita and gave me some hints and generally soothed my furrowed brow. Refreshed, I returned to conquer all, armed with the new information, confident I wouldn't need to bother them again.

I was back on the phone first

thing in the morning. My position hadn't changed. I still couldn't get past the dragon and the devil just killed me no matter what I said. I was convinced I had tried everything. This can't be right, I thought. It wasn't.

The taciturn Ken finally had to put me straight.

I'm going to pass on the hint he gave me about the dragon as it was the writers allowing themselves the last resort of pedantry to make a puzzle harder. To my mind this was a shame as it shifted the climax of the adventure to getting past the dragon instead of the confrontation with the sorcerer, as it should have been, due only to the inordinate time it took to figure out the puzzle. So here is the clue, hot from the authors: having found something to distract the dragon you must do it twice, finding two different verbs to describe the same action. These two input statements must also be consecutive. Tedious, huh?

The other, devilish problem, was a bug in the save-game facility which causes the devil to kill you, even after you have input the right text. You will know when you got it right as the correct text screen appears, but you get no opportunity to move before your demise. To remedy this, go back to a previous save and

work your way through to the current position. Auld Nick should then be a little more enlightening, asked the right question.

So that was it. Seven days. Is this a record? Almost certainly not, I expect, but I felt wonderful until the anti-climax set in and I got to wondering how on earth I could occupy myself now. I rang Magnetic Scrolls to tell them the good news (and also to tell just how much I had enjoyed The Pawn). They seemed pleased for me and after a chat we arranged for them to return my computer. Ken dropped it off to me.

"Did you find the fault?" I asked?

"Kind of", he replied. "We know it's the Vic chip but we can't get the spec for it from Commodore to find out why it isn't performing correctly."

"So is there anything I can do?"

"Buy another chip".

I shrugged, considering whether it was worth it. After all, I only had this problem with The Pawn and I had finished that, so what was the point. I said as much to Ken. The merest glimmer of a smile crossed the otherwise impacable features.

"We have this new game coming out soon....." he said.

Oh dear. How much is a Vic chip, anyway?

ENCYCLOPEDIA GALACTICA 10; THE BLACK THINGIE. PART 3.

THE STORY SO FAR; LANA AND WIMBLEY HAVE SET A TRAP FOR THE EVIL BLACK THINGIE.

HA, HA, HA. COME OUT COME OUT, WHERE EVER YOU ARE.



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SPRITE 128

By Ian Bennett

C-128

This programme was inspired by a letter I received from Michael Grant of Bedworth in Warwickshire. In it he mentions the problems that tape users have in saving Sprite data ie having to resort to using the monitor etc. One solution put forward by Michael is for games writers to leave the designing of the Sprites to the users with the aid of the 128's inbuilt SPRDEF. The writer need only list the number and type of Sprites, ie:

Sprite 1 is your spaceship
Sprite 2 is an alien
etc etc

Many of the queries I receive about the Sprites on the 128 stem from the lack of information about them in the 128 System Guide which accompanies the computer when you buy it. Here are a few facts which I hope will put you back on the path of fame and fortune.

The default Sprite data storage area is 3584-4095 (\$OE00-\$OFFF). This area can be changed using the Sprite data pointers which live at 2040-2047 (\$07F8-\$07FF) or 8184-8191 (\$1FF8-\$1FFF) when using hi-res. Most of the 64's pokes will work on the 128 ie:

This is a program to generate data statements from Sprites generated with SPRDEF.

Enable Sprites — POKE 53269,
PEEK(53269) AND(255-2^x)
Where x = Sprite number (0-7)

Colour Sprites — POKE 53287+x, colour
Where x = Sprite number (0-7)

Position Sprite — 53248-53264

Expand Sprite — 53271 (Y direction)
53277 (X direction)

Sprite to background priority — 53275

Sprite collision priorities — 53278, 53279

I strongly recommend anyone interested in programming the 128 to get their hands on a copy of the 128 PROGRAMMERS REFERENCE GUIDE where you should find most of the answers to most of your problems.

SPRITE 128 is a programme to put your Sprite definitions created with SPRDEF into data statements. Type in the program making sure to save it before trying to run it. Once debugged and saved you can proceed to design your Sprites using SPRDEF. When you have finished your masterpieces load in SPRITE 128 and run it. You will be presented with 'FIRST LINE NUMBER FOR DATA' to this you give the line number at which you want your Sprite data statements to start. You are then asked for the first and last Sprite numbers of the Sprites you want. The defaults are 1 and 8. If you only want one Sprite ie Sprite 2 then type 2 for the first and last numbers. When all the data has been written the programme will delete itself leaving only the data. I hope this will be of some use to all you keen BASIC 7.0 programmers. Many thanks to Michael for his input. Keep the ideas and questions rolling in.

I.B.

```

1 REM *** IAN BENNETT 7TH NOV 1986 ***
2 POKE53280,0:POKE53281,0:B$=CHR$(157)+CHR$(157)+CHR$(157)
3 PRINT CHR$(5)CHR$(147);:INPUT"FIRST LINE NUMBER FOR DATA";A:B=A
4 PRINT:IF A<22 OR A>63000 THEN RUN
5 PRINT"FIRST SPRITE NUMBER 1"B$;:INPUT F:IF F <1 OR F> 8 THEN 5
6 PRINT"LAST SPRITE NUMBER 8"B$;:INPUT L:IF L <1 OR L> 8 THEN 6
7 IF F > L THEN 5: ELSE T=3584+(F-1)*64:O=3583+L*64
8 Z$="":FOR P=0 TO 7:Z$=Z$+STR$(PEEK(T+P))+",":NEXT P
9 Z$=LEFT$(Z$,LEN(Z$)-1):IF T>O THEN 16: ELSE A$=Z$:Z$=""
10 FOR X=1 TO LEN(A$):D$=MID$(A$,X,1)
11 IF D$=CHR$(32)THEN NEXT: ELSE Z$=Z$+D$:NEXT:PRINT CHR$(147);
12 FOR DL=1 TO 8:PRINT CHR$(17);:NEXT:PRINT CHR$(5);:PRINT A;"DATA ";Z$
13 PRINT CHR$(144)"A=";A;" +10:T=";T;" +8:O=";O;" :GOTO 8"
14 POKE 208,2:POKE 842,13:POKE 843,13
15 PRINT CHR$(19);:FOR X=1 TO 6:PRINT CHR$(17);:NEXT:END
16 PRINT CHR$(147)CHR$(5)"DATA LINES FROM"B"TO"A-10:PRINT
17 POKE 208,1:POKE 842,13:PRINT CHR$(144)"DELETE -17";CHR$(19)CHR$(5);:
:END

```


The Trojan Light Pen

Trojan Light Pen

Light Master must be the first light pen on the C16 and within the memory limitations they have done an excellent job.

When I first got the package I had problems making it work but after fine adjustment of the brightness and colour it started functioning beautifully. The list of options are as follows:

1. Dot — with this option you get pixel perfect accuracy for your drawings.
2. Line — Pretty obvious, draw a line at any angle, of any size, too bad you can't make them curved.
3. Box — another obvious one but you can't draw parallel.
4. Rays — one of my favourites, draws lines outwards from a point of your choice. Creates great effects.
5. Triangle — draws any type you want.
6. Circle/Ellipse — draw circles and ellipses with ease — though it's hard to draw an accurate circle.

for the

PLUS/4 & C16

7. Banding — similar to 'Line' this one, but where the end of one line starts the next one begins.
 8. Fill — fill any shape you've drawn with one of the 120 colours at your disposal.
 9. Pen 1, 2, 3A — good addition this stops the lines and colours merging when they cross over.
- The Plus/4 has these extra options:
10. Freehand Draw — enables you to draw as normal.

11. Brush — similar to above.
12. Copy — copy any area of picture drawn.
13. Text — write on the screen in a choice of sizes.
14. Wash — don't know about this one — sounds good though.

This is an excellent package and at £19.95 is very good value. I rate it very highly if it were a game — Mega — almost Awesome. If it could have been a little cheaper I would have had no reservations whatsoever. But it is just what the hard done by C16/Plus 4 owners have been waiting for — well done Trojan.

Price: £19.95
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Uni-Tape Header Reader

by Clive Whitaker

In the past, there have been many versions of a program which will 'read' a cassette tape header. Invariably these have only extracted information such as the program name, the start/end address and the program length. However, there is one more piece of information which lives in the first byte of the header. This byte is used to inform the computer in which format the data was saved, ie Basic, Machine Code or as a Sequential file. In addition, by using some of the above information, you can find out even more about how your program was saved, ie an approximate load time and the likelihood of the program having been saved using a Turbo and/or an Autorun routine.

Since the Commodore range of computers (except the 'AMIGA') each handles

A programme to read tape headers. It has some nice features and will work with most CBM machines.

the tape header in much the same way when saving and loading, I decided to write a program, which would not only supply all of the information mentioned above, but would also run on a range of computers, ie the C128, C64, VIC20, PLUS 4 and the C16.

It must be said, that this utility will only tell you how a program was saved, ie as Basic or Machine code, and should therefore only be treated as a guideline as to the type of program being read.

The approximate load time, is taken from when the program is 'found', to the end of the load. In order to compensate for the variance in speed between different Datasette's, you should first record the time taken to load a Basic program, then using this utility to find the program length, divide the length of the load time. The result will be the value of 'BA' in line 10. Repeat the procedure with a Machine Code program, for the value of 'mc', also in line 10.

In order to ensure this utility will run on each of the computers mentioned, you should substitute the value's in line 10, of 'LOC' (Start of cassette buffer) and 'SCREEN' (Bottom of screen memory) with the appropriate values, which can be found in table A.

```

1 REM *****
2 REM *      UNI-TAPE HEADER      *
3 REM *      INFO.              *
4 REM *                        *
5 REM *      BY                  *
6 REM *      C.R.WHITAKER        *
7 REM *      DEC 1986            *
8 REM *****
9 REM
10 LOC=2816: SCREEN=1024: MET=65535: BA=49: MC=51: REM ***** SEE TEXT *****
20 D$=CHR$(17): FOR X=1 TO 9: E$=E$+D$: NEXT X: X$=" 0": Y$="0"
30 DIM H$(15): FOR I=0 TO 15: READ H$(I): NEXT I: R$=" PROGRAM NAME..... "
40 GOSUB 380: PRINT TAB(8)E$;: PRINT"INSERT TAPE AT CORRECT"
50 PRINT: PRINT TAB(9)"POSITION TO BE 'READ'"
60 PRINT TAB(6) LEFT$(E$,4);: PRINT CHR$(18)" PRESS ANY KEY TO CONTINUE "
70 GET F$: IF F$="" THEN 70
80 OPEN1: CLOSE1: GOSUB 380
90 M=PEEK(LOC): IF M=4 THEN R$=" FILE NAME..... "
100 PRINT: PRINT: PRINT R$;: FOR X=LOC+5 TO LOC+20: C=PEEK(X)
110 IF C>192 THEN C=C-128
120 IF C<34 OR C>95 THEN 140
130 PRINT CHR$(C);
140 NEXT X: S=(PEEK(LOC+2)*256)+ PEEK(LOC+1)
150 E=(PEEK(LOC+4)*256)+ PEEK(LOC+3): L=E-S: IF E < S THEN L=(MET-S)+E
160 IF M=4 THEN S=0: E=0: L=0
170 PRINT: PRINT: PRINT" START ADDRESS..... DEC";S: H=S
180 PRINT TAB(30) CHR$(145)" HEX ";: GOSUB 410
190 PRINT: PRINT" END ADDRESS..... DEC";E: H=E
200 PRINT TAB(30) CHR$(145)" HEX ";: GOSUB 410
210 PRINT: PRINT" PROGRAM LENGTH.... DEC";L: H=L
220 PRINT TAB(30) CHR$(145)" HEX ";: GOSUB 410
230 T=L/BA: Z$="BASIC": IF M=3 THEN T=L/MC: Z$="MACHINE CODE"
240 IF M=4 THEN Z$="A SEQUENTIAL FILE": PRINT: PRINT: GOTO 290
250 IF S<SCREEN THEN PRINT: PRINT: GOTO 290
260 T$=STR$(T): IF T<60 THEN Y$=LEFT$(T$,3): GOTO 280
270 X=INT(T/60): Y=T-(X*60): X$=STR$(X): Y$=STR$(Y): X$=LEFT$(X$,3): Y$=LEFT$(Y$,3)
280 PRINT: PRINT" LOAD TIME.....";X$;: PRINT"MINS ";: PRINT Y$;: PRINT"SECS"
290 PRINT: PRINT" SAVED AS..... ";Z$

```

CONTINUED ON PAGE 78

Micronet has probably brought viewdata to more micro users than any other similar system in the world. It is the largest information provider on Prestel — the UK Viewdata (or Videotex as it is called in other countries) service. Micronet's range of services is still increasing. They include Celebrity Chatline on which CCI's Managing Editor recently faced a highly informed, sharply questioning audience. Someone at Micronet told him that Commodore owners were just that little brighter than other micro owners. Not altogether a surprise!

About 30% of all Prestel subscribers are Micronet members as well. Micronet however, is not confined to the UK and is currently involved in worldwide activities.

tion and marketing of the service as a whole.

Mike Brown commented, 'Most of the editorial material will be created locally by the service operators, LAZERNET 800. We have already installed 'Chatline', and Lazernet are busy translating all of our free software into Italian.'



with Malaysia whose system in Kuala Lumpur is in its infancy. Their videotex system, TELNET, is very much under-used but again they are presently negotiating with Micronet in the hope that they will be able to stimulate interest in videotex in an otherwise buoyant computer industry.

Micronet's aim is for all micro users to be able to communicate with each other no matter how far apart they may be. This is technically feasible already, but telephone costs are prohibitive. Simon D'Arcy commented, 'International Packet Switch Stream provides cheaper international online charges, and we hope that as international data traffic increases, so the cost will ultimately come down.'

An interesting overlap is that Prestel

Micronet Moving Worldwide

Micronet began life purely as an information service offering news and advice to a hard-core of micro enthusiasts, but has developed many unique applications for the Prestel software enabling its members to communicate with each other on an unprecedented scale. As its services grew, so did its membership, and consequently, the telephone traffic generated by Micronet members. As a result, Micronet is seen by many countries throughout the world, as being the standard on which they should model their videotex services.

Italy isn't alone in having an interest in Micronet. Countries already running Micronet include Hong Kong, Israel and Belgium. Micronet have also been approached by Australia, Portugal and Greece. New Zealand, as well, already has a system installed and are presently carrying out feasibility studies as they have an enormous number of micro users there.

At the moment, much of Mike Brown and Simon D'Arcy's time is taken up

Education is part of the microcomputing CUG (Closed User Group) and Micronet hope to represent Prestel's educational database when abroad as well. Much of the educational software would be greatly valued by other countries and would provide them with yet another immediate application for their videotex systems.

The next step for Micronet is the introduction of their own in-house editing facilities with their own main-frame computer carrying a replica of the Micronet database. All of their editing will be processed locally with instant updates on Prestel.

Mike Brown said, 'We will shortly have a total in-house editing package using Commodore Amigas as terminals. This means that each frame can be displayed or altered in an instant. We have enhanced the software to such an extent that it is probably the most sophisticated videotex package in the world. Hopefully, it will mean that other countries not only buy our network service expertise, but editing system as well.'

Global Marathon

Micronet and its members are currently sponsoring a member of a team — one of four — that will set off on the oriental route of what is claimed to be 'the largest ever Marathon' — by bicycle.

Micronet is sponsoring Aiden Prior whose team will, after leaving Hong Kong cross China, including riding along the Great Wall and continue along the Arctic Circle then down through Denmark, Germany and finally — after covering approximately 12,000 Kilometers coming to rest at Amsterdam, followed by a rally with other bikers to London.

A.M.

Trigger product

Simon D'Arcy, Micronet's Commercial Director explained, 'What many countries need is a trigger product that will generate interest — a Micronet-type service is ideal. In a sense, our database justifies the whole concept of introducing public videotex system for those countries starting out.'

It all started with G.E.C.'s bid for an Italian contract. The competition was strong — I.B.M., Olivetti, and even I.T.T. all bid to create a videotex system for S.I.P., the Italian telephone company. If G.E.C. were to win the contract, they would need to include Micronet in the package thus providing the trigger product that would give the Italians an immediate application.

Database management

G.E.C. subsequently won the contract on the basis that Micronet — in the form of D'Arcy and Technical Director Mike Brown — would provide the support to actually launch the service in Italy. This included not only the software that was needed, but also the training and advice in database management and the opera-



Simon D'Arcy, Commercial Director.

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```

300 IF M=4 THEN PRINT: PRINT: PRINT: GOTO 340
310 PRINT: PRINT" AUTORUN AND/OR TURBO SAVED ";
320 IF S> SCREEN THEN PRINT"UNLIKELY ": PRINT: GOTO 340
330 PRINT"LIKELY ": PRINT
340 PRINT: PRINT CHR$(18) CHR$(29)"(Q)TO QUIT.....(R)TO READ ANOTHER TAPE"
350 GETF$: IF F$= "R" THEN RUN
360 IF F$<> "Q" THEN 350
370 PRINT CHR$(147): END
380 PRINT CHR$(147):PRINT TAB(8)"***"CHR$(18) "TAPE HEADER INFO "CHR$(146) "***"
390 PRINT: PRINT TAB(18)"BY": PRINT: PRINT TAB(8)"C.R.WHITAKER...DEC 1986"
400 RETURN
410 P1=0: IF H=>4096 THEN P1=INT(H/4096): H=H-(P1*4096)
420 P2=0: IF H=>256 THEN P2=INT(H/256): H=H-(P2*256)
430 P3=0: IF H=>16 THEN P3=INT(H/16): H=H-(P3*16)
440 PRINT H$(P1)H$(P2)H$(P3)H$(H): RETURN
1000 DATA 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F

```

Breakdown of Program:

LINE 10 Set up 'local' variable. See text/table.

LINE 20-70 Set up variables, print title page and wait for key to be pressed.

LINE 80 Open channel 1 and load Tape header into cassette buffer.

LINE 90-140 Read cassette buffer, ignore control characters and print Program/file name.

LINE 140-160 Read cassette buffer and calculate (in Decimal) Start

(S)/End (E) Address and Program Length (L). By nature a Sequential File has no start/end address, therefore if a Sequential File is found, then S, E and L will all be set to zero.

LINE 170-220 Print S, E and L in Decimal. Calculate and print S, E and L in Hexidecimal.

LINE 230-290 Calculate and print approximate load time. Evaluate and print save format, ie Saved as ...Basic, Machine Code or Sequential File.

LINE 300-330 Evaluate and print the likelihood of the program having been saved using an Autorun and/or turbosave routine.

LINE 340-370 Option to run another tape header or to end program.

LINE 380-400 Title subroutine.

LINE 410-END Decimal to Hexidecimal conversion subroutine.

TABLE A

	C128	C64	VIC20	PLUS4	C16
LOC	2816	828	818	818	
SCREEN	1024	1024	7168	3072	3072

C.W.

ATTENTION ALL PROGRAMMERS!!

You may be an experienced programmer – you may be a beginner. Either way, you may have come across some useful tips which could make life easier for other CCI readers.

Or maybe you have written a program, either in Basic or assembly language, that you feel is worthy of publication.

CCI always welcomes contributions from readers. We will publish any suitable listings or programming advice...and we'll pay you for it!

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Please enclose a SAE if you wish to have your program returned to you. Please package disks or cassettes carefully!

The address to send contributions to is:

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Windows Galore on the C64

by Peter Lager

With this program any rectangular portion of the screen together with its associated colour memory can be saved to a storage buffer. The portion of the screen saved is called a window and can be displayed at any time and at any position on the screen with incredible speed. This ability can be used in pull down menus or animation of LORES displays etc.

PROGRAM DETAILS

1) The machine code resides in high RAM from 52224 (\$CC00) to 53227 (\$CFEB). This leaves 3k from 49152 (\$C000) to 52223 (\$CBFF) for other machine code programs or as part of the storage buffer for windows.

2) It is possible to create windows of any size from 1x1 to 40x25 characters (full screen), to calculate how much of the buffer a particular window requires is very simple. A window of width (W) and height (H) requires HxW bytes for the screen memory, the same for the colour memory and 5 bytes to store the window number, width, height and a two byte pointer to next window in the buffer ie 2xHxW+5 bytes. The way a 3x2 window is stored in the buffer is shown in diagram 1.

3) The windows are stored in the RAM behind the BASIC ROM building up from 40960 (\$A000) to 49151 (\$BFFF). The buffer upper limit, which is initially set at 49151, can be altered by the programmer to give any buffer size from 256 bytes to 11k in 256 byte steps.

To alter the buffer size then use the following command

POKE 53211,160+X

where X= number of 256 byte blocks to make required buffer size.

Buffer size	X value	Buffer upper limit
8k (default)	32	49151(\$BFFF)
11k (maximum)	44	52223(\$CBFF)

4) Up to 255 windows can be saved in the buffer at any one time provided there is enough room. It should be noted that any program using this utility is not restricted to only 11k of windows as it is possible to save/load windows to/from disk or cassette during program execution.

5) When the C64 is first switched on the text screen is located at 1024 (\$0400) and the window program will use this

This is a utility type program. It will help BASIC programmers to give their programs a professional look by enabling them to include windows.

location unless told otherwise. If the screen has been moved to a new location by the programmer, then the window program must be altered with the following command

POKE 53210,X

where X= (Location of first byte of screen memory/256)

Default value of X=4.

COMMANDS AND THEIR SYNTAX

All the commands are executed with a statement like:—

SYS52248,<command no.>,
<parameters>

COMMAND 1

Save all windows to disk/cassette

SYS52248,1,"filename",8

Change the 8 to a 1 for cassette

COMMAND 2

Load a window file from disk/cassette

SYS52248,2,"filename",8

Change the 8 to a 1 for cassette

COMMAND 3

Delete all windows from buffer

SYS52248,3

This command must be used at the very beginning of any program using this utility to prepare the buffer for saving windows. There are a couple of exceptions to this rule. First there is no need to use this command if your program is to load windows from disk/cassette. Secondly windows can be shared by more than one program since they are not erased by the NEW command so be careful where you use this command when you chain programs.

COMMAND 4

Delete a particular window from the buffer. (Free the space for future windows)

SYS52248,4,<wno>

COMMAND 5

Save a window to the buffer.

SYS52248,5,<wno>,<xpos>,<ypos>,
<width>,<height>

COMMAND 6

Display a previously saved window to the screen. (This leaves the copy of the window in the buffer intact)

SYS52248,6,<wno>,<xpos>,<ypos>,
<dflag>

The syntax of each command must be as it is shown here or the computer will display a syntax error message. The parameters that are passed to the program can either be constants, variables or expressions but all have restrictions on their values outside of which error messages are generated see Table 1.

WINDOW NO <wno>

This must be in the range 1-255 and must be unique for each window. There are no restrictions on the order that windows are saved or displayed.

Errors 2 & 3 can be generated. Error 10 is generated if <wno>=0

WINDOW POSITION <xpos>,<ypos>

These represent the column and row of the top left byte of the window save or display position.

<xpos> must be in range 0-39

<ypos> must be in range 0-24

Error 4 or 5 will be generated if outside range.

WINDOW SIZE <width>,<height>

These represent the width and height of the window.

<width> must be in range 1-40

<height> must be in range 1-25

Error 6 or 7 will be generated if outside range. Also error 8 or 9 will be generated if the window does not fit on the screen.

DISPLAY FLAG <dflag>

The value of the flag determines the mode of display and is only used with Command 6.

0- window will overwrite screen memory
128- window will overwrite screen memory but will be displayed with reversed background and fore ground colours.

64 & 192 are the same as 0 & 128 except the window in the buffer is swapped with the screen. Repeating the command will return the original display.

CONTINUED ON PAGE 82

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Program

ERROR MESSAGES

The program will display an error message and end program execution if the parameters passed to it in the command are illegal values eg. xpos=41. The error message has the format

<WINDOW ERROR xx> IN ln where xx is the error number (1-12) see table 1 and ln is the offending line number (ln is not displayed in direct mode).

The program is presented here as a basic loader which when run, pokes the machine code into RAM. After this you will be given the option to save the code to disk or tape as a program file.

To use windows in your own programs

then the machine code must be loaded into high RAM. To do this then start your program with the line

```
0 F=F+1 : IFF=1 THEN LOAD
  "<filename>",8,1
```

Where <filename> is the name of the program file and 8 is the disk drive device no. (change to 1 for cassette).

FINAL POINTS

- 1) The program does not use any of the 38k of the RAM available for BASIC programs.
- 2) When the program is first loaded the

buffer is set up at 8k and the program assumes the screen is located at 1024 (\$0400). If you alter these values and then save the machine code with the command

```
SYS52224,"filename",8
```

then these new values will act as the default values when this copy of the program is next loaded.

A short BASIC demo program is included just to give you an idea of what the program can do. Line 1050 of the demo program loads the machine code which had previously been saved with the filename "WINDOWS" and can be omitted if the machine code is already in RAM.

P.L.

```
10 REM*****
20 REM* BASIC LOADER FOR WINDOW PROGRAM *
30 REM* BY PETER LAGER *
40 REM*****
50 L=52224:E=0:PRINT CHR$(147):PRINT" PUTING MACHINE CODE IN RAM"
60 FOR X=0 TO 66:T=0:FOR Y=0 TO 14
70 READ A:IF A <0 OR A >255 THEN 100
80 POKE L,A:L=L+1:T=T+A:NEXT
90 READ A:T=T-(INT(T/256)*256)
100 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
110 PRINT1000+(X*10)"OK":NEXT
120 PRINT CHR$(147):PRINT:PRINT" MACHINE CODE LOADED INTO MEMORY"
130 PRINT"SELECT OPTION (1-3)":PRINT
140 PRINT"1) SAVE CODE TO DISK"
150 PRINT"2) SAVE CODE TO TAPE"
160 PRINT"3) EXIT PROGRAM"
170 GET A$:IF A$=""THEN 170
180 A=VAL(A$):IF A<1 OR A>3 THEN 170
190 IF A=3 THEN PRINT CHR$(147):END
200 PRINT CHR$(147);:INPUT" ENTER FILENAME":F$
210 IF LEN(F$)=0 OR LEN(F$)>16 THEN 200
220 A$="PREPARE CASSETTE FOR SAVING PROGRAM":D=1
230 IF A=1 THEN A$="PLACE DISK REQUIRED IN DRIVE":D=8
240 PRINT CHR$(147):PRINT " ";A$
250 PRINT:PRINT:PRINT" HIT ANY KEY WHEN READY"
260 POKE 198,0:WAIT 198,1:POKE 198,0
270 SYS 52224,F$,D
280 PRINT CHR$(147):PRINT" MACHINE CODE SAVED":END

1000 DATA 032,253,174,032,212,225,169,204,133,252,169,000,133,251,169,104
1010 DATA 251,162,235,160,207,032,216,255,096,032,241,183,138,201,001,106
1020 DATA 208,003,076,162,207,201,002,208,003,076,198,207,201,003,208,171
1030 DATA 003,076,069,206,201,004,208,003,076,083,206,201,005,208,003,016
1040 DATA 076,139,206,201,006,208,003,076,046,207,162,001,160,048,140,143
1050 DATA 126,204,138,201,010,144,006,233,010,238,126,204,024,105,048,025
1060 DATA 141,127,204,160,204,169,112,032,030,171,165,058,201,255,240,221
1070 DATA 003,032,194,189,076,134,227,060,087,073,078,068,079,087,032,139
1080 DATA 069,082,082,079,082,032,032,032,062,000,165,001,041,254,133,122
1090 DATA 001,096,165,001,009,001,133,001,096,169,000,133,251,170,173,119
1100 DATA 223,207,010,141,163,204,172,224,207,165,251,024,105,000,144,192
```


1110 DATA 001,232,133,251,136,208,243,165,251,024,105,005,144,001,232,083
 1120 DATA 141,225,207,142,226,207,096,173,225,207,024,109,216,207,141,242
 1130 DATA 227,207,169,000,109,226,207,024,109,217,207,141,228,207,205,179
 1140 DATA 219,207,096,032,130,204,169,160,133,254,169,000,133,253,160,015
 1150 DATA 000,177,253,240,021,205,220,207,240,021,160,003,177,253,072,201
 1160 DATA 200,177,253,133,254,104,133,253,076,224,204,032,137,204,056,136
 1170 DATA 096,032,137,204,024,096,032,241,183,142,220,207,138,201,000,161
 1180 DATA 208,007,162,010,104,104,076,072,204,096,032,241,183,142,221,070
 1190 DATA 207,138,201,040,144,005,162,004,076,018,205,032,241,183,142,006
 1200 DATA 222,207,138,201,025,144,005,162,005,076,018,205,096,173,221,106
 1210 DATA 207,024,109,223,207,170,202,138,201,040,144,005,162,008,076,124
 1220 DATA 018,205,173,222,207,024,109,224,207,170,202,138,201,025,144,221
 1230 DATA 005,162,009,076,018,205,096,173,222,207,133,020,169,040,133,132
 1240 DATA 021,024,169,000,162,008,106,102,020,144,003,024,101,021,202,083
 1250 DATA 016,245,133,021,165,020,024,109,221,207,144,002,230,021,141,163
 1260 DATA 229,207,141,231,207,173,218,207,024,101,021,141,230,207,169,202
 1270 DATA 216,024,101,021,141,232,207,096,169,160,133,254,141,217,207,015
 1280 DATA 169,000,133,253,141,216,207,032,130,204,160,000,177,253,240,011
 1290 DATA 046,200,177,253,141,223,207,200,177,253,141,224,207,032,144,065
 1300 DATA 204,032,187,204,160,003,173,227,207,072,145,253,141,216,207,127
 1310 DATA 200,173,228,207,145,253,141,217,207,133,254,104,133,253,076,164
 1320 DATA 174,205,032,137,204,096,142,248,205,140,249,205,174,224,207,082
 1330 DATA 173,223,207,141,235,207,160,000,032,000,000,169,040,024,101,176
 1340 DATA 251,144,002,230,252,133,251,173,223,207,024,101,253,144,002,086
 1350 DATA 230,254,133,253,202,208,219,096,177,251,072,177,253,077,234,020
 1360 DATA 207,145,251,104,077,234,207,145,253,200,206,235,207,208,234,097
 1370 DATA 096,177,253,077,234,207,145,251,200,206,235,207,208,243,096,019
 1380 DATA 177,251,145,253,200,206,235,207,208,246,096,169,000,141,000,230
 1390 DATA 160,141,216,207,169,160,141,217,207,096,032,005,205,032,213,153
 1400 DATA 204,144,005,162,002,076,072,204,032,130,204,160,003,177,253,036
 1410 DATA 133,251,200,177,253,133,252,160,000,177,251,145,253,230,251,050
 1420 DATA 208,002,230,252,230,253,208,002,230,254,165,252,205,219,207,101
 1430 DATA 208,233,032,157,205,096,032,005,205,032,024,205,032,241,183,098
 1440 DATA 142,223,207,202,138,201,040,144,005,162,006,076,072,204,032,062
 1450 DATA 241,183,142,224,207,202,138,201,025,144,005,162,007,076,072,237
 1460 DATA 204,032,057,205,032,213,204,176,005,162,003,076,072,204,032,141
 1470 DATA 144,204,032,187,204,144,005,162,011,076,072,204,032,096,205,242
 1480 DATA 173,216,207,133,253,173,217,207,133,254,160,000,173,220,207,166
 1490 DATA 145,253,200,173,223,207,145,253,200,173,224,207,145,253,200,185
 1500 DATA 173,227,207,141,216,207,145,253,200,173,228,207,141,217,207,126
 1510 DATA 145,253,165,253,024,105,005,144,002,230,254,133,253,173,229,064
 1520 DATA 207,133,251,173,230,207,133,252,162,058,160,206,032,230,205,079
 1530 DATA 173,231,207,133,251,173,232,207,133,252,032,236,205,169,000,074
 1540 DATA 168,145,253,096,032,005,205,032,024,205,032,241,183,138,041,008
 1550 DATA 128,141,234,207,138,041,064,141,233,207,032,213,204,144,005,084
 1560 DATA 162,002,076,072,204,032,130,204,160,001,177,253,141,223,207,252
 1570 DATA 200,177,253,141,224,207,032,137,204,032,057,205,032,096,205,154
 1580 DATA 169,005,024,101,253,144,002,230,254,133,253,032,130,204,173,059
 1590 DATA 229,207,133,251,173,230,207,133,252,173,233,207,208,007,162,245
 1600 DATA 044,160,206,076,142,207,162,021,160,206,032,230,205,173,231,207
 1610 DATA 207,133,251,173,232,207,133,252,032,236,205,032,137,204,096,226
 1620 DATA 032,253,174,032,212,225,032,130,204,169,160,133,252,169,000,129
 1630 DATA 133,251,169,251,174,216,207,172,217,207,232,208,001,200,032,110
 1640 DATA 216,255,032,137,204,096,032,253,174,032,212,225,169,000,170,159
 1650 DATA 160,160,032,213,255,032,157,205,096,000,160,004,192,000,000,130
 1660 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000

Evesham Micros

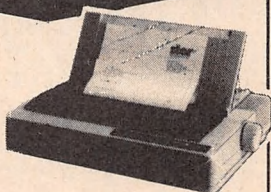
ALL PRICES INCLUDE VAT & DELIVERY

THE **Star**
PRINTERS FOR BUSINESS

NL-10

WHICH MAGAZINE
BEST BUY

- Automatic single sheet handling
- Tractor feed built in
- "Front Panel" mode selection
- Double and Quad height characters
- 120 cps draft and 30 cps NLQ



This is the best Commodore ready printer you can buy. Combines many unique features with superb reliability, styling and print quality. But the real beauty is that the interface cartridge is interchangeable so if you change comp-uters just buy a new interface.

In a group test with other popular printers such as Epson, Citizen and OKI What Micro magazine described the NL10 as 'the Rolls Royce of this group'. ONLY **£249.00**

Automatic cut sheet feeder available as an option for **£63.25**

SELECTED PRODUCTS

1541C DRIVE. The latest version of the 1541, better drive mechanism and new colour ONLY **£189.95**

DISC NOTCHER. Double the capacity of your discs with this handy gadget. Cuts second write protect notch accurately and easily ONLY **£5.95**

AZIMATE 3000. Handy package allows you to easily check and realign the tape head of your CBM data recorder. Includes screwdriver ONLY **£6.95**

MOTHERBOARD. 4-slot, with either all upright sockets, or three upright and one through socket, to suit modem; please specify ONLY **£28.00**

POWER PACK. High quality replacement power pack for CBM 64 ONLY **£24.95**

XETEC SUPERGRAPHIX. The best centronics printer interface for your 64/128. Large buffer, downloadable fonts, etc. ONLY **£69.00**

DATA RECORDER. CBM compatible, same performance as the C2N/1531 but cheaper and includes a pause button. ONLY **£24.95**

Large stocks of Commodore-related equipment at sensible prices. If you don't see what you want, give us a call.

DISKS AND BOXES

25 bulk-packed DS/DD disks with w/p tabs and labels ONLY **£13.95**

25 disks as above with 50 capacity lockable box ONLY **£22.95**

25 disks as above with 100 capacity lockable box ONLY **£24.95**

50 capacity lockable box ONLY **£10.95**

100 capacity lockable box ONLY **£13.95**

THE

EVESHAM ENHANCER

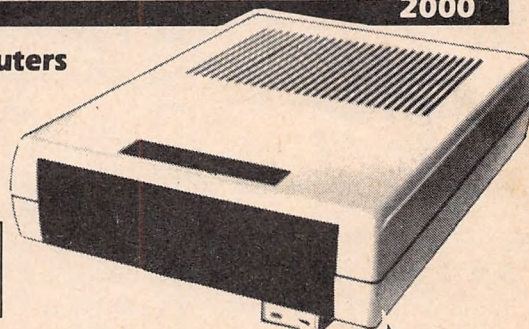
2000

For COMMODORE Computers

The Evesham Micros version of this reliable and compact disc drive has a **new ROM** to ensure a **very high** degree of compatibility with disc turbos and protection schemes.

FEATURES

- ★ Handles Disc Turbos
- ★ Direct Drive Motor
- ★ 1 Year Guarantee
- ★ Highly Compatible
- ★ No Overheating
- ★ Very Reliable
- ★ Compact Size
- ★ Very Quiet



IMPORTANT: ONLY THE EVESHAM MICROS VERSION OF THIS DRIVE HAS THE NEW ROM THAT WILL HANDLE DISC TURBOS AND LOAD OVER 98% OF PROTECTION SCHEMES.

THREE PURCHASE OPTIONS —

OPTION 1
Evesham Enhancer with free s/ware.
ONLY **£149.95**

OPTION 2
Evesham Enhancer with free s/ware and Quickdisc + cartridge.
ONLY **£159.95**

OPTION 3
Evesham Enhancer with free s/ware, Freeze Frame Mk IV and 25 blank discs.
ONLY **£179.95**

WITH NEW COMPATIBLE ROM

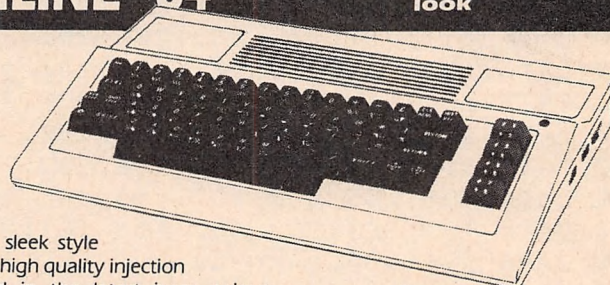
THE SLIMLINE '64

Give your '64 the modern look

A NEW IMAGE FOR THAT FAVOURITE COMPUTER

- Easy to Fit
- Lower key height

This modern case with it's sleek style will transform your '64. The high quality injection mould is superbly finished in the latest ivory colour. The lower key height is also a boon to operator comfort. Fitting is very simple, requiring just a Philips screwdriver, and can be completed in less than 10 minutes. Stock now available so order for quick delivery.



Only **£19.95**

DOLPHIN DOS

YOU WON'T BELIEVE YOUR EYES!

THE EFFECT IS STAGGERING.

Now established as **THE parallel operating system** for the 1541 disc drive. Hundreds of satisfied users include business, hobby, full-time programmers, and many leading software houses, including Gremlin Graphics, Domark, Superior, Alligata, Thalamus, Adventure International, and Software Projects.

The speed and efficiency is truly unbelievable, it is compatible with the vast majority of commercial software, speeding up both the loading of the program and of SEQ/REL files. (It is brilliant with Superbase, Easyscript, etc.) For non-compatible programs it can be **completely switched out.** It DOES NOT use a special disc format and your existing discs will be compatible.

FITTING

Fitting involves the insertion of two sub assembly circuit boards, one in the 1541 and one in the '64/128. These normally just plug in but on some '64s a small amount of soldering is necessary.

SOME OF THE FEATURES

- ★ 25x FASTER LOADING (PRG FILES)
- ★ 12x FASTER SAVING (PRG FILES)
- ★ 10x FASTER LOADING (SEQ FILES)
- ★ 8x FASTER SAVING (SEQ FILES)
- ★ 3x FASTER LOAD/SAVE (REL FILES)
- ★ E.G. LOAD 202 BLOCKS IN 5 SECS
- ★ EASY AND FAST DOS COMMANDS
- ★ USE 40 TRACKS FOR 749 BLOCKS
- ★ MONITOR BUILT IN
- ★ DRIVES CENTRONICS PRINTER
- ★ ENHANCED SCREEN EDITOR
- ★ EXTRA BASIC COMMANDS

(These figures do not allow for searching)

EXTRAS AVAILABLE ...

Kernal for '128 in '128 mode	£9.95
User port expansion card (3 slot)	£14.95
Dolphin Copy (Whole disc in 18 secs and lightning fast file copier)	£7.95
Dolphin main board for second drive c/w lead	£44.95

If you require further information, please send SAE for fact sheet



Best Hardware Utility of year

Only **£69.95**
Available for CBM 64, or '128 in '64 mode, please specify.

In Australia: contact **Micro Accessories of S.A.**, Unit 8, Hewittson Road, Elizabeth West, S. Australia 5113. Tel: (08) 287-0191

THE CHOICE IS YOURS!

FREEZE FRAME

BACKUP CARTRIDGES

THE FACTS

Almost eighteen months ago, Freeze Frame Mk I revolutionised backup methods. Since then many imitators have appeared on the market. Some of the claims being made for certain of these products are rather misleading. Let us inform you of some positive facts.

1. Much of the new software released uses "Anti-Freeze"; only Freeze Frame and one other product can handle these.
2. Only Freeze Frame can automatically handle these and other programs. You don't need to be an "Expert" or need "O" levels to operate Freeze Frame.
3. At press date (11.2.87) our exhaustive tests were unable to find any memory resident program that both Freeze Frame Mk IV and Lazer were unable to back up, completely automatically.
4. Similar tests with all rival products proved disastrous.

THESE ARE THE FACTS
(not outrageous advertising claims)

FREEZE FRAME Mk IV

NEW PRICE . . . WHY SETTLE FOR LESS!

Now you can buy a pedigree Freeze Frame backup cartridge for a startling new price. **No need to settle for less**, this is the latest development of the originator. **More power, more features, easier to use.**

POWER

Legendary amongst Commodore owners but with continual development now even more impressive.

FEATURES

Three cartridges in one . . . fast load, utilities and backup.

TAPE to DISC
DISC to DISC

TAPE to TAPE
DISC to TAPE

So simple to use, just plug in and switch on, at the menu choose your option, no messing with software, it's always ready.

Load the program that you wish to backup, press the button on Freeze Frame, then you can either:

1. Press "D" to save to disc with fast reload.
2. Press "S" to save to disc with standard reload.
3. Press "T" to save to tape with fast reload.

MULTI STAGE PROGRAMS

The standard cartridge will transfer to disc many tape based multi stage programs, e.g. Summer Games II, Silent Service, Winter Games, etc. and when used in conjunction with the regularly updated "F.F. Utility Disc" the vast majority of programs of this type can be handled.

MORE FEATURES

- * Doubles as a fast load cartridge
 - * Loads extra parts fast
 - * Built-in Fast Format
 - * Built-in File Copier (up to 248 blocks)
 - * New "SELECTLOAD" feature (Press "L" for directory, select with cursors, then press F3 to load).
 - * Undetectable by software
 - * Files compressed for disc economy
 - * 128/128D compatible in '64 mode
- PROGRAM RELOAD IS INDEPENDENT OF CARTRIDGE

NOW ONLY **£28.95**

At this price there is no need to settle for less

UPGRADES: Mk I or II . . . £14.95

Mk III or IIIB . . . £9.95

Mk IV to LAZER . . . £11.95

FREEZE FRAME LAZER

ANOTHER TRENDSETTER?

From the design team that changed the face of backup technology comes another innovation. The powers of Freeze Frame have been combined with a **staggeringly quick** new loading system. An **amazing 32K of ROM** provides you with **all the facilities of Freeze Frame Mk IV** as described opposite, plus the stunning new **LAZER** loading technique.

Check these LAZER features

- * Reload a program in 10-15 seconds
- * Fast saving of programs
- * Loads extra parts at **VERY HIGH** speed
- * Load speed approx. 20x normal
- * Uses standard disc format
- * Includes RESET

Cartridge must be present to reload at LAZER speed
Proven power with stunning new technology:

ONLY **£39.95**

UPGRADES: Mk I or II . . . £29.95

Mk III or IIIB . . . £19.95

Mk IV . . . £11.95

"F.F." UTILITY DISC V2.0

Now with many more routines to allow the complete transfer from tape to disc of programs that load parts as the program progresses. Used in conjunction with Freeze Frame for the awkward ones that cannot be handled by the standard cartridge. Included are routines for most popular games like **Supercycle, World Games, Gauntlet, Trivial Pursuit, Ace of Aces, Dragons Lair I & II** (includes training mode), etc., etc.

ONLY **£7.95**

Update fee for owners of V1.0 is £2.00

DISC DISECTOR V5.0

The fifth version of the country's leading disc backup/utility program. This latest version includes many "PARAMETERS" to handle the latest highly protected discs. This includes the latest **American and English software**. Be warned if you want to back up software by Ocean, Gremlin, Hewson, Domark, and even U.S., Gold whose protection schemes are NOT always the same as the American versions, then you **MUST** have "D.D.". At press date, we are sure **NO** other advertised product will handle all these, be it American or German.

INCLUDES THE FOLLOWING

- * EVESHAM 3 MINUTE NIBBLER
- * EVESHAM 8 MINUTE NIBBLER
- * MANY PARAMETERS (The vital code for the protection schemes)
- * DUAL DRIVE NIBBLER
- * MENU MAKER (with select facility)
- * DISC ORDERLY
- * FAST FORMAT
- * FAST FILE COPY
- * UNSCRATCH
- * DISC RESCUE
- * DISCMON+
- * ETC., ETC., ETC.

The whole package is menu driven and has its own fast boot system built in for your convenience. Pays for itself the first day you receive it.

ONLY **£24.95**

Customers with earlier versions may return them along with a payment of **£7.95** to receive **V5.0**. Most routines are CBM 128 and 1570/71 compatible in '64 mode.

QUICKDISC+

Our highly popular fast load and save plus utility cartridge has received many favourable reviews.

- * FAST LOAD (5 to 7 times improvement)
- * FAST SAVE (5 to 7 times improvement)
- * FAST FORMAT (20 seconds)
- * FAST BACKUP (4 minutes)
- * FAST FILE COPY (up to 248 blocks)
- * EASY DOS COMMANDS
- * CENTRONICS PRINTER DRIVER
- * RESET BUTTON (unstoppable)
- * HELPS MENU
- * USES NO MEMORY
- * '128 COMPATIBLE ('64 mode)

Exception value for money at only . . .

£19.95

1541 QUIET STOPS

Cure for ever the dreaded 1541 drive head "hammering".

- * Easy to fit
- * Detailed instructions
- * One kit does two drives
- * Helps prevent misalignment

ONLY **£4.95**

Not suitable for "turn lever" type drives.

DOUBLER

THE tape backup "device"

Many thousands of this popular product have been sold and sales continue to flourish. Why? We think because it is the best product of its type. Consisting of hardware and software it uses a unique method controlled by the software that allows you to produce perfect backups of your tape software.

It is very easy to use and very successful, in fact our tests have proved that Doubler can achieve **100% success**.

ONLY **£12.95**

1541 PHYSICAL EXAM

Have you got . . .

Alignment problems

If so, you need this package. Contains digital alignment disc and drive fault diagnosis software that allows you to check and correct head alignment.

- * CHECKS RADIAL ALIGNMENT
- * CHECKS SPEED
- * CHECKS BELT AND CLAMPING
- * THOROUGH INSTRUCTIONS
- * INCLUDES QUIET STOPS

ONLY **£39.95**

ORDERING INFORMATION

ALL PRICES INCLUDE VAT AND FREE DELIVERY WITHIN U.K. (Despatch within 24 hours whenever possible)

By Post

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HOW TO ORDER

Call our Evesham branch and quote your ACCESS/VISA details

By Phone

EVESHAM MICROS, 63 BRIDGE ST, EVESHAM, WORCS. WR11 4SF

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Tel: 0386 41989 Telex: 333294

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Also at: 1756 Pershore Road, Cotteridge, Birmingham B30 3BH. Tel: 021 458 4564

All items subject to availability, E & O.E. Orders from Government and Educational departments welcome.

Overseas Orders: Within Europe, please send advertised price. Outside Europe, add **£2.00** for Air Mail

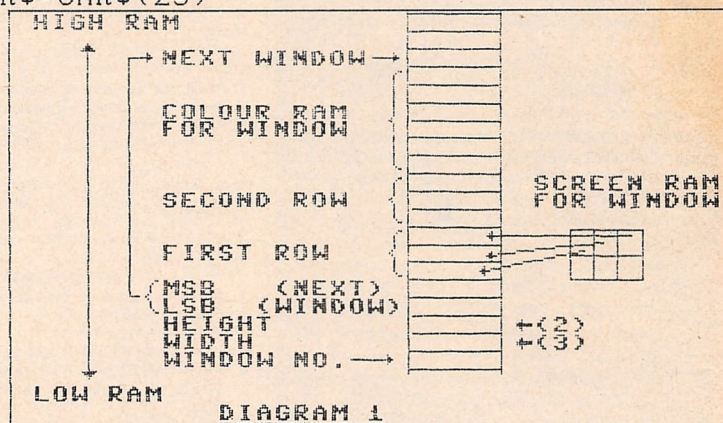


Program

```

1000 REM -----
1010 REM DEMO PROGRAM TO DISPLAY SOME
1020 REM OF THE POSSIBLE USES OF THIS
1030 REM          UTILITY.
1040 REM -----
1050 F=F+1:IF F=1 THEN LOAD"WINDOWS",8,1
1060 REM"CHANGE TO 1 FOR CASSETTE "
1070 Z=52248:SYS Z,3
1075 C$=CHR$(147):D$=CHR$(17):R$=CHR$(29)
1076 L$=CHR$(157):H$=CHR$(19)
1080 POKE 53281,1
1090 FOR I=2 TO 8:POKE646,I
1100 PRINT C$;"*****"
1110 PRINT"*-----*"
1120 PRINT"*-----*"
1130 PRINT"*-----*"
1140 PRINT"*-----*"
1150 PRINT"*-----*"
1160 PRINT"*-----*"
1170 PRINT"*-----*"
1180 PRINT"*-----*"
1190 PRINT"*****"
1200 PRINT H$;D$;R$;R$;"MENU";STR$(I-1)
1210 SYS Z,5,1,0,0,10,10
1220 NEXT I
1230 PRINT C$;" PULL DOWN MENU DISPLAY"
1240 D=64:GOSUB 1460
1250 PRINT C$;"NOW IN REVERSE"
1260 D=192:GOSUB 1460
1270 PRINT C$;:POKE 646,1
1280 PRINT "   ***"
1290 PRINT "  *   *"
1300 PRINT " *     *"
1310 PRINT"*****"
1320 PRINT"*****"
1330 PRINT" **   *"
1340 PRINT"**     *"
1350 SYS Z,5,20,0,0,9,8
1360 POKE 646,7
1370 PRINT H$;D$;D$;D$;D$;D$;R$;R$;R$;R$;"#";D$;L$;L$;"###"
1380 SYS Z,5,22,0,0,9,8
1390 POKE 646,5:POKE 53281,0
1395 FOR DE = 2 TO 0 STEP-1
1400 PRINT C$;"VERY SIMPLE":PRINT"ANIMATION";D$;D$;D$;D$:A=20
1410 FOR I=17 TO 0STEP-1
1420 A=42-A
1430 SYS Z,6,A,18,1,0
1440 FOR J=0 TO DE*100:NEXT J,I:REM "SLOW DOWN ANIMATION"
1450 NEXT:END
1460 FOR I=2 TO 8:SYS Z,6,1,10+2*I,2*I-2,D
1470 FOR J=0 TO 200:NEXT J,I
1480 FOR I=8 TO 2 STEP-1:SYS Z,6,1,10+2*I,2*I-2,D
1490 FOR J=0 TO 200:NEXT J,I
1500 RETURN

```



ERROR	MESSAGE
1	BAD COMMAND NO.
2	NO SUCH WINDOW
3	WINDOW ALREADY EXISTS
4	BAD XPOS
5	BAD YPOS
6	BAD WIDTH
7	BAD HEIGHT
8	BAD XPOS + WIDTH
9	BAD YPOS + HEIGHT
10	BAD WINDOW NO.
11	NO ROOM TO STORE WINDOW

ERROR NOS. AND THEIR MESSAGES

TABLE 1



ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI

It was very nice to receive some offers for my two printers, but the sale was only mentioned tongue in cheek so sorry folks, no deal (yet!). Anyway at least it shows that some of you read this column.

Something that many people join ICPUG for is the Public Domain Library. ICPUG are pleased to announce the release of 25 disks worth of very care-

fully categorised freeware and Public Domain software for the new C range of machine. These disks which are in 3½" format have been expanded from public domain disks available elsewhere with many carefully chosen and fully proven programmes. As you would expect with quality software from ICPUG, all the programmes are fully documented. Further disks in the series are under preparation and will be announced when available.

The Librarian for our 3½" product is Mike Todd who can be contacted at 27 Nursery Gardens, Lodge Field, Welwyn Garden City, Herts, AL1 1SF. Concerning our libraries in other disk formats (mainly 5¼") for all other Commodore computers, contact the Chief Librarian, Joe Griffin, Clovelley, Lynwick Street, Rudgewick, Horsham, Sussex RH12 3DJ.

As an additional service to members we are producing disks of directories, so that by sending a blank disk to whichever librarian a complete list of all software for your computer is available in machine readable form (this saves a vast amount of printer time and literally reams of paper). Naturally, as with all ICPUG services, this is completely free to all members.

The logistics of running a club like ICPUG can be pretty horrendous. Last year we had something over 3,000 members spread throughout Britain, and some in Europe, America and other

far-flung places, to keep things ticking over, we have a 'National Committee' which is elected annually at A.G.M. This committee meets roughly bi-monthly at a secret location in Northumberland Avenue, near London. There we discuss what's happening with all the various activities we're involved in, attempt to sort out any major world crises, make politics and decisions for the future, and criticise each others various magazine/book ramblings. Actually its not that bad, but we just had a committee meeting this week. The best part of these meetings is the drink in the pub afterwards. Here it is that one can glean all sorts of interesting information about Commodore, both nationally and internationally, and that fact alone makes the trek from the south coast up to the smoke worthwhile.

Our major concern is always to make the best use of our resources, and one of our major resources is money, it doesn't take a vast amount of intellect to work out that 3,000 members will raise us £30,000 in subscriptions alone, plus there is income from magazine adverts etc. Now this may seem a lot of money, and yes, on the face of it, it is. But a large proportion of this goes into producing our magazine, which if you have seen it, you will agree is probably the most informative quality publication in the computer industry. The rest goes into software libraries, comms networking, publicity, exhibitions etc etc. **T.W.A.**

MICROCOMPUTER SUPPLIES OFFICIAL COMMODORE AMIGA DEALER

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Sidcar for Amiga	PHONE
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Commodore MPS1000 Dot Matrix 100cps & NLQ Print/Trac	219.00
Star NL10 with C64/128 Interface 120cps & NLQ I/t	220.00

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Philips 8533 14" Med Res Colour Mon for C128 incl lead	245.00
Philips BM7502 Green Monitor for C64/128 incl lead	72.00

MISCELLANEOUS

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Commodore 1571 Disk Drive	226.00
Cent Interface for C64/128	26.04
Cent Interface for C64/128 with 8k buf & graphics	51.30
RS232 Interface for C64/128 with disk software	49.95
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Commodore 1530 Cassette Recorder	31.00
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C128 Official Programmer's Ref Guide (NO VAT) (p&p E2)	21.95
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GEOS Desktop	29.86
GEOS Writer's Workshop	30.43
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Superscript 128 Word Processor	64.00
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Border Sprite

by Lee A. Brown

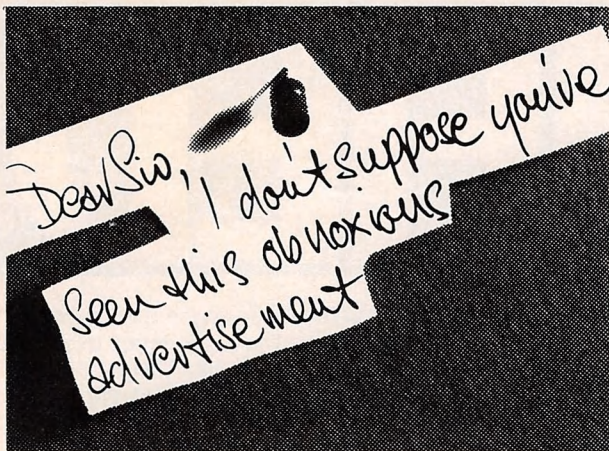
This is a neat 64 Assembly program which enables you to put sprites in the border (top and bottom). It is a useful trick for

presenting games and demos. We know that Lee Brown has been asked by many people how to do this, so we are printing it

as he says, 'to put them out of their misery.' Well, we hope it doesn't go that far!

```
0 REM *****
1 REM *
2 REM * BORDER SPRITE BY LEE A. BROWN *
3 REM *
4 REM *****
10 L=49152
20 FOR X=0 TO 6:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"100+(X*10)"CHECKSUM <>"A:STOP
70 PRINT100+(X*10)"OK":NEXT
100 DATA 120,169,034,141,020,003,169,192,141,021,003,169,001,141,026, 070
110 DATA 208,169,127,141,013,220,169,000,141,014,220,173,025,208,141, 177
120 DATA 025,208,088,096,173,025,208,141,025,208,173,018,208,041,160, 005
130 DATA 240,025,041,128,240,029,169,000,141,032,208,173,017,208,041, 156
140 DATA 247,141,017,208,169,000,141,018,208,076,049,234,169,048,141, 074
150 DATA 018,208,076,049,234,169,000,141,033,208,173,017,208,009,008, 015
160 DATA 141,017,208,169,249,141,018,208,076,049,234,000,000,000,000, 230
```

```
1 REM *****
2 REM *
3 REM * TEST PROGRAMME *
4 REM *
5 REM *****
10 SYS 49152
20 V=53248
30 POKE V+21,1
40 POKE 2040,192
50 POKE V+39,1
60 POKE V,100
70 FOR L = 1 TO 10
80 FOR X = 0 TO 255
90 POKE V+1,X
100 NEXT
110 NEXT
```

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